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ABSTRACT

A communication satellite was utilized as part of a 16 session career education course for secondary school teachers given at 15 sites throughout the Appalachian region. The conclusions reached were: (1) teachers preferred the sessions which presented examples of career education and were "how to do it" in format; (2) teachers preferred lab activities in which student interaction predominated; (3) teachers would use the CBRU (Computer Based Resource Units) and AIM/ARM (Abstracts of Instructional Media and Research Materials in Vocational Education) information systems if they were installed in their school systems but wanted more clarification of their usage; (4) teachers demonstrated significant gains in the cognitive area; (5) teachers indicated significant change in attitude towards career education; and (6) teachers indicated they are using more career education activities in their own classrooms. The appendixes include the names of the 35 participants, the lab activities, and various questionnaires used during the formative evaluation process. (NR)

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SUMMATIVE EVALUATION OF CAREER EDUCATION IN THE SECONDARY SCHOOL COURSE - FALL, 1974

Technical Report No. 11

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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September, 1975

IR 002 875

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Claudine Ausness

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The purpose of this series is to document and disseminate information about the design, implementation and results of the AESP experiment.

William J. Bramble and Cathy Whitton
Editors

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9. Student Achievement: Career Education in the Elementary Grades, Summer, 1974. Prepared by Rodger Marion, William J. Bramble and Claudine Ausness. August, 1975.

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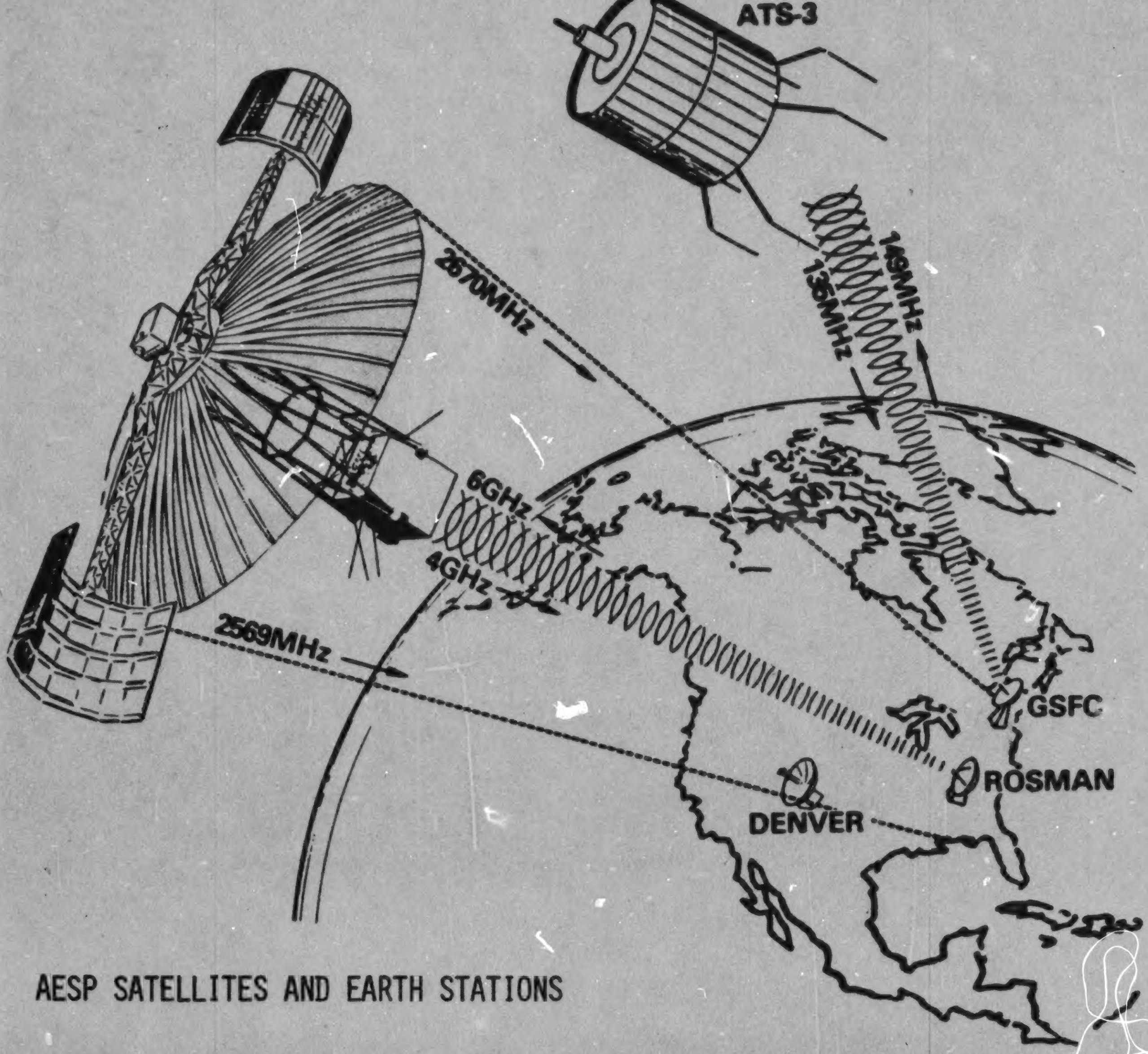
INTRODUCTION

On May 30, 1974, the world's most powerful communications satellite, carrying the largest antenna yet devised for space, was launched by a Titan-III C rocket from the Kennedy Space Center in Florida. This satellite, an Applications Technology Satellite (ATS-6), was sixth in a unique series of satellites launched by the National Aeronautics and Space Administration for the purpose of conducting several major experiments in the fields of education and health professions.

One of the prime users of ATS-6 time was the Appalachian Education Satellite Project (AESP), which by means of video and audio satellite transmission offered four graduate-level teacher training programs in career education and elementary reading to nearly 1,200 teachers in eight Appalachian states.

NASA (National Aeronautics and Space Administration) and HEW (Department of Health, Education and Welfare) supported several educational and health applications of communications satellites. The experiments were designed to evaluate the performance and effectiveness of satellite relay of programming to facilities such as schools, HEW learning centers, hospitals, clinics and community antenna television distribution systems. Two other educational experiments were located in the Rocky Mountain states and the states of Washington and Alaska.

The AESP branch of the Applied Technology Satellite Project was designed to meet specific needs of teachers in Appalachia. A 1970 survey conducted by the Appalachian Regional Commission revealed that


ATS-3
149MHz
135MHz
2670MHz
6GHz
4GHz
2569MHz
GSFC
ROSMAN
DENVER

AESP SATELLITES AND EARTH STATIONS

course was designed to provide teachers with procedures for diagnosing pupil reading strengths and deficiencies, procedures for connecting the diagnosis with prescriptive instructional strategies and techniques to teach specific skills identified by the diagnosis. Specific needs expressed by teachers in the reading area were assessed in three live, interactive televised seminars and during on-site visits by the project staff. The second course in reading built on the first by adding five new programs and revising two to make the content applicable to all elementary school grades. This course was offered in the spring of 1975 and incorporated 17 videotaped programs, supplementary materials and five seminars.

A similar course of twelve videotapes and ancillary instructional materials was offered to teachers of grades one through six in career education in the summer of 1974. The general objectives of this course were to enable school personnel to (1) obtain a broad understanding of the world of work; (2) develop in their students self-awareness and decision making skills, while providing them with a variety of occupational information; and (3) restructure curriculum to integrate the basic principles of career education. As in reading, the participating teachers were able to interact with course designers through live seminars and on-site visits.

In the fall of 1974, a career education course for secondary school teachers (CES) was offered. This course was composed of sixteen one-hour live, interactive video seminars and supporting ancillary materials. Students had the opportunity to interact with experts in career education. Dr. Rupert Evans was the instructor and seminar host for the course;

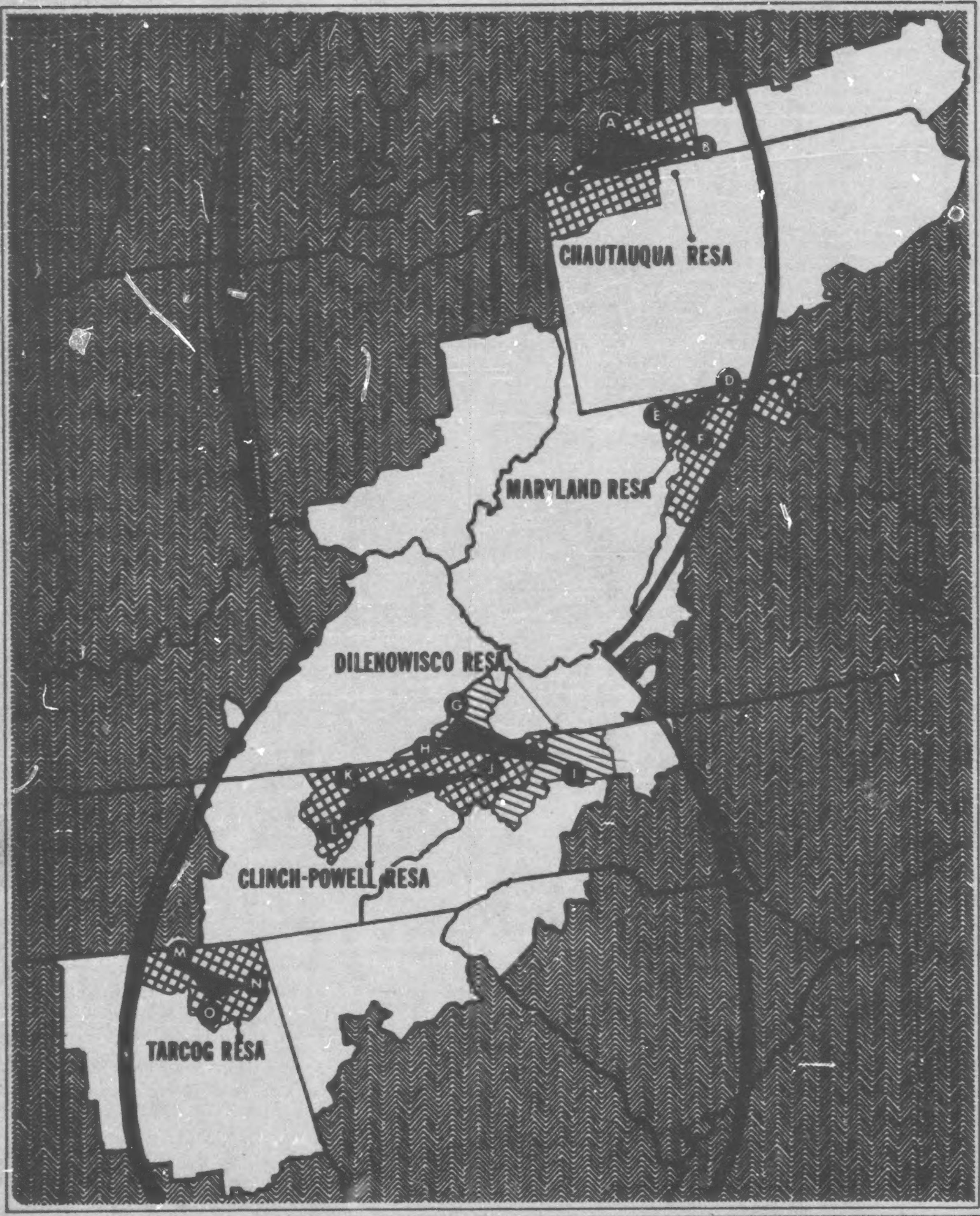

A
B
C
CHAUTAUQUA RESA
D
E
F
MARYLAND RESA
DILENOWISCO RESA
G
H
I
J
K
L
CLINCH-POWELL RESA
M
N
O
TARCOG RESA

FIG. 1 MAP OF THE APPALACHIAN REGION SHOWING THE FIVE RESA CLUSTERS, RECEIVING TRIANGLES, AND APPROXIMATE SATELLITE FOOT PRINT.

A.	Fredonia, N.Y.	I.	Boone, N.C.
B.	Olean, N.Y.	J.	Johnson City, Tenn.
C.	Edinboro, Pa.	K.	LaFollette, Tenn.
D.	Cumberland, Md.	L.	Coalfield, Tenn.
E.	McHenry, Md.	M.	Huntsville, Ala.
F.	Keyser, W. Va.	N.	Rainsville, Ala.
G.	Norton, Va.	O.	Guntersville, Ala.
H.	Sticklyville, Va.		

Dr. Evans and two seminar participants are shown in the picture on the following page. Students communicated questions and comments to seminar participants through VHF radio and teletype hook-ups via satellite with the television studio.

The purpose of this report is to examine in detail the course in career education for secondary school teachers by focusing on the following questions:

-- What was the rationale for course development?

-- What were the characteristics of the participants?

-- What were the formative and summative evaluation procedures used for this course?

-- How effective were the technical aspects of the course?

-- What were student reactions to the format of the course, including the seminars, laboratories and information systems?

-- What learning took place?

-- Did participants attitudes toward career education change as a result of taking the course?

RATIONALE FOR COURSE DEVELOPMENT

The unique combination of the video capabilities of the ATS-6 and the two-way audio and data transmission capacity of ATS-3 permitted the Appalachian Education Satellite Project to explore the feasibility of interactive, live seminars as a primary instruction tool. The Career Education in the Secondary School course (CES) was unique among courses offered by AESP in that it depended largely on the seminar format to deliver instruction to participating teachers. The three other courses primarily used videotape format with several live, interactive seminars, and four-channel audio review instruction equipment.

The purpose of the seminars was not only to transmit pre-selected career education content, but also to allow teacher participants to modify the program to meet their individual needs. The seminars originated as live presentations at the RCC and were transmitted via ATS-6 to the classroom sites; feedback was possible through a two-way audio and data transmission return link via ATS-3 from the RESA classroom sites to the broadcast studio.

With weekly feedback via audio connection, it was possible to alter subsequent seminar presentations, thereby adapting the content of the on-going course to meet the expressed needs of the participants. In addition, the audio interconnection during the live seminar provided the opportunity for participants to interact with the career education experts and community leaders taking part in the seminar presentations. Thus, the course design provided for immediate feedback of information to individual participants during the seminar, and for the modification of course content from seminar to seminar.

Planning and Development of Course Content

Dr. Rupert Evans, who is currently with the Bureau of Educational Research at the University of Illinois, contracted to function as course developer and seminar moderator for each of the 16 seminars. Originally Dr. Evans met with representatives of the management, television, career education and evaluation components of the AESP in order to assimilate input from each of these integral components of the project.

Objectives for the course were established as a basis for developing content. In terms of outcomes for students participating in the course, each student would:

-- comprehend the principles, concepts and practices of career education in a secondary school setting

-- apply an instructional planning process in integrating career education into existing curricula or in developing new curricula

-- be able to introduce career education concepts, principles and practices to secondary school staff

-- demonstrate a positive attitude toward the application of career education principles, concepts and practices to a secondary school setting.

An original course outline was constructed and revised in subsequent discussions between Dr. Evans and the other AESP staff members in order to produce a course which would meet the needs of the participating audience throughout Appalachia.

The final list of topics to be covered in the 16 seminars included:

Seminar 1 -- What is Career Education?

Seminar 2 -- The Relationship of Work, Careers and Education

Seminar 3 --	Understanding the Wide Range of Occupations: Clustering as a Means
Seminar 4 --	Career Education Coordination at All Levels of Education
Seminar 5 --	Coordination and Integration of Career Education at All Levels of Education
Seminar 6 --	The Secondary School Student
Seminar 7 --	Career Education Programs and Resources
Seminar 8 --	The Community as a Resource
Seminar 9 --	Problems in Program Planning I
Seminar 10 --	Problems in Program Planning II
Seminar 11 --	Stereotypes
Seminar 12 --	Attitudes Toward Career Education
Seminar 13 --	Staff Involvement in Training
Seminar 14 --	Student Units (Show and Tell) I
Seminar 15 --	Student Units (Show and Tell) II
Seminar 16 --	The Future of Career Education

In developing a tentative list of seminar guests, individuals were considered on the basis of their contributions and expertise in particular areas of career education. To provide a balanced and comprehensive coverage of the field, participants included recognized national authorities, authors, program developers, classroom teachers and school administrators and representatives of government agencies involved with career education. In addition six of the participants came from the RESA areas. The final list of participants who appeared on the seminar series with Dr. Evans is presented in Appendix 1.

Appropriate laboratory activities were developed for student use during the course. Materials were developed by AESP project personnel, working closely with Dr. Evans, and included both individual and group activities to correspond with the topic for each seminar presentation. Each student in the course received a packet of materials for each weekly course meeting. An outline of the laboratory activities is presented in Appendix 2.

Each packet consisted of a cover sheet which listed the topic of the seminar to be presented during that session, the laboratory activities for that session and the materials needed to complete those activities, a list of materials to be handed in to the site coordinator that day, the materials to be distributed to each student, and a list of assignments. Assignments were in two sections, follow-up and pre-preparation. Follow-up assignments were designed to reinforce the materials presented that day, both in the seminar and the laboratory session. Assignments listed under pre-program preparation related to material to be presented in the coming week's session, and were designed to better prepare the student to respond to material presented during that session. A reference section and a suggested reading list were also included. Materials were cited which pertained to that day's discussion and which would serve as sources for follow-up reading.

Laboratory sessions for the course were designed as a follow-up to the live seminars, with activities designed to increase student understanding of career education through application of concepts presented in the seminars. They were also proposed to serve as work sessions for developing class projects (curriculum/implementation units).

Each student participating in the course was provided with five books[*] as a source of additional supplemental information. Each student could also utilize the reference collection at his/her site, which included optional course texts and several additional career education references. Sample curriculum units were included in the reference collection to serve as models for the curriculum or implementation unit which each student was to develop during the course. Participants had access to computer and manual information retrieval systems. Several sample computer searches were included to serve as guides for the students.

Each student was expected to provide input into weekly seminars; participate in group activities at his/her classroom site; complete ancillary (laboratory) activities on site; complete course readings; and develop a career education curriculum/implementation unit.

Course Production

Each seminar was broadcast live from the University of Kentucky television studio to RESA sites. Planning sessions occurred prior to each seminar, during which existing plans for presentations were reviewed and final plans for the actual broadcast were detailed.

Before any seminars were aired, all seminar guests were contacted and plans were made for their appearance. The topic for the seminar on which they were to appear was discussed at length. Participants arranged to arrive at the University on the night before or the morning of the broadcast (all broadcasts were aired in the evenings). Prior to the actual broadcast, each participant met with Dr. Evans, the career education coordinator of the AESP, the television producer-director for the series, and other appropriate personnel connected with the seminar in order to finalize last-minute details and review the content outline for that particular program.

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[*] 1. Career Education: What It Is and How To Do It - R. Evans, et al.
2. Inservice Training Guide - L. Keller
3. My Career Guidebook - H. S. Belman & B. Shertzer
4. Career Education in the Middle/Junior High School - R. Evans
5. Career Education Resource Guide - J. Bottoms, et al.

Each seminar was basically designed to present discussions of the selected topic via an interactive panel of experts. However, taped and film inserts depicting the operation of successful career education activities and simulated activities staged and filmed in the television studios in advance of the seminar presentation were also used.

During each broadcast, questions and comments from participants at each of the 15 classroom sites were received via voice or teletype transmission. Questions and comments were coordinated and fed to the on-stage moderator, who then directed the question/comment to the appropriate seminar participant. Questions and comments from participants were subsequently studied for input into modifications of future programs in order to better meet the needs of the audience.

Upon occasion, minor adjustments in seminar content and production had to be made due to unavoidable circumstances; for example, inclement weather prohibited the arrival of two seminar participants during the winter. In such instances, contingency plans were put into effect. These plans which had been made with Dr. Evans and the producer-director included supplemental film segments and additional discussion topics.

Supporting Information Systems

One of the components of AESP was Information Systems which employed a combination of computer-based and manual systems for storing, retrieving, and delivering to teachers in their communities information and instructional materials. Participants asked for information, specifying grade, subject area, objectives and the nature and diversity of the students in the class they were teaching. The requests were processed at the RCC and the participants received information, lists of activities and resources for both themselves and their pupils.

The two information systems used by career education students were two subsystems of the Educational Research Information Centers (ERIC) system, Abstracts in Instructional Materials (AIM) and Abstracts in Research Materials (ARM), and the Computer-Based Resource Unit (CBRU) system. A microfiche data base for AIM/ARM was provided at each site. Searches of these systems were available through the RCC. The CBRU system was used to provide a diagnostic/prescriptive information system for career education. The system recommends activities, materials, content and evaluation devices to use with a class or individuals when objectives and student profiles are fed into the system.

On-Site Visits

At various times during the career education seminar series, AESP personnel visited RESA classroom sites in order to maintain a direct contact with course participants. Feedback received from participants during these visits resulted in suggestions and comments as to course format, design and content, and were most helpful in implementing desirable changes in future seminars.

METHOD

Subjects

Approximately 20 participants were enrolled at each of the 15 sites for the CES course. In total, 317 participants attended at least one meeting of the course, and 247 completed all course requirements. Table 1 gives the site locations and enrollment at each site.

A background questionnaire was administered to the participants in the course. This questionnaire is presented in Appendix 3, Item A. Background information was collected from participants during the first four weeks of the course and was compiled for all students who completed the form and who were enrolled as of the sixth week (N = 248). Seventeen questions were asked the participants concerning their educational and teaching background. Table 2 summarizes the information obtained.

Procedures and Instrumentation

Meaningful formative and summative evaluation for a course offered to approximately 300 students in 15 classrooms in eight states is dependent on well defined procedures and a variety of instruments. Unlike most classrooms in which the instructor can observe and subjectively define classroom climate and student reactions to materials, the AESP courses depended largely on observations by the site coordinators and student response via questionnaires to modify and evaluate course content. (Examples of all instruments except the pre- and post-cognitive achievement tests appear in Appendix 3.)

TABLE 1

SITE LOCATION AND ENROLLMENT IN CES COURSE - FALL, 1974

Lead RESA	Site Locations	Total Number of Participants Enrolled in Course	Number of Participants Completing Course
Chautauqua County Board of Cooperative Educational Services (BOCES) Box 250 Fredonia, New York 14063	(1) Fredonia, N.Y.	22	17
	(2) Olean, N.Y.	20	18
	(3) Edinboro, Pa.	22	16
Clinch-Powell Educational Cooperative Harrogate, Tennessee 37752	(1) Lafollette, Tn.	25	24
	(2) Coalfield, Tn.	23	17
	(3) Johnson City, Tn.	22	18
DILENOWISCO Educational Cooperative 1032 Virginia Avenue Norton, Virginia 24273	(1) Norton, Va.	20	17
	(2) Sticklyville, Va.	19	12
	(3) Boone, N.C.	18	15
Maryland RESA 110 Washington Street Cumberland, Maryland 21502	(1) Cumberland, Md.	20	17
	(2) Keyser, W. Va.	24	15
	(3) McHenry, Md.	20	18
TARESA 2603-C Leeman Ferry Road Huntsville, Alabama 25801	(1) Huntsville, Ala.	27	15
	(2) Guntersville, Ala.	18	16
	(3) Rainsville, Ala.	17	12
		TOTALS 317	247

TABLE 2

SUMMARY BACKGROUND INFORMATION FOR CES COURSE PARTICIPANTS (N=248)

		Frequency	Percentage
Type of community where participant worked	Rural	186	75.0
	Urban	62	25.0
Sex	male	123	49.0
	female	125	51.0
Age	30 or under	107	43.0
	31-40	58	23.0
	41-50	50	20.0
	51-60	28	11.0
	60+	2	1.0
	No Response	3	8.0
Position during 1973-74 school year	Teacher	174	70.0
	Counselor	41	17.0
	Principal	9	4.0
	Other	24	9.0
Grade level taught during 74-75 school year	K-3	4	2.0
	4-6	11	4.0
	7-9	71	29.0
	10-12	94	38.0
	Not applicable or no response	68	27.0
Work experience in teaching	5 yrs. or less	89	36.0
	6-10	60	24.0
	11-15	36	15.0
	16-20	31	12.0
	21	32	13.0
Experience in teaching career education	2 yrs. or less	187	75.0
	3-4	22	9.0
	5-6	7	3.0
	7-8	5	2.0
	9+	8	3.0
	No Response	19	8.0
Undergraduate GPA (A = 4)	2.00-2.49	30	12.0
	2.5 -2.99	105	42.0
	3.0 -3.49	85	34.0
	3.5 -4.0	22	9.0
	No Response	6	3.0

TABLE 2 (continued)

		Frequency	Percentage
Graduate GPA (A = 4)	3.67-2.99	5	2.0
	3.0 -3.33	32	13.0
	3.34-3.66	86	35.0
	3.67-4.0	79	32.0
	No response	36	18.0
Last degree completed	High school	3	1.0
	Baccalaureate	132	53.0
	Masters	105	42.0
	Specialist	1	1.0
	Doctorate	2	1.0
	No response	5	2.0
Number of Career Education courses completed	None	215	87.0
	1	14	6.0
	2	6	2.0
	3	1	1.0
	4 or more	9	4.0
	No Response	3	1.0
Number of graduate Career Education courses completed	None	172	69.0
	1	41	17.0
	2	20	8.0
	3	3	1.0
	4 or more	8	3.0
	No Response	4	2.0
Enrolled in college degree program	Baccalaureate	4	2.0
	Masters	77	31.0
	Specialist	29	12.0
	Doctorate	4	2.0
	Not enrolled or no reply	134	53.0

Pre-Post Test

Prior to the first class session all students completed four evaluation forms: a Pretest, a Teacher Attitudes Toward Career Education Questionnaire, a Teaching Practices Inventory, and the previously discussed Background Questionnaire. The Pretest, composed of 55 multiple choice questions, measured participant cognitive knowledge about career education. This examination was administered as a Posttest at the last class meeting. These tests together were used to measure the learning in the area of career education which occurred as an outcome of the course. Correct items were summed to obtain achievement scores. The reliabilities of the pretest and posttest were .718 and .610 respectively.

Teacher Attitudes Toward Career Education

The Teacher Attitudes Toward Career Education (TACE) was composed of 32 questions with responses given on a five-point Likert scale with 1 = strongly disagree with the statement to 5 = strongly agree with the statement. The purpose of this instrument, which was administered on a pre-post test basis, was to measure gains in participants affective attitudes toward career education. Factor analysis with VARIMAX rotation run on the post administration (N = 211) to determine its underlying structure, indicated that this instrument was essentially unifactorial, i.e., it measured a single dimension of attitude toward career education. The first factor accounted for 93.5% of the common variance. Items that loaded greater than +.4 or less than -.4 on this factor were retained for scoring. Four items, numbers 14, 22, 24 and 32, did not contribute to this factor and were deleted according to the above criteria. The ratings for the remaining items were summed across individuals to obtain attitude scores. Table 3 presents the unrotated loadings from factor one for the items used. Coefficient Alpha, the measure of internal consistency reliability for the instrument, was .941.

Teaching Practices Inventory

The third instrument administered on a pre-post test basis was the Teaching Practices Inventory (TPI), consisting of 134 questions which were designed to measure both the participants own classroom practices in career education and characteristics of the classroom and school environment.

Site Coordinator's Checklist

At the end of each class meeting the site coordinator completed the Site Coordinator's Checklist. Using this simple checklist, equipment trouble and audio and video signal strength were reported. The instrument solicited the site coordinator's subjective evaluation of the students' satisfaction with the seminar and lab activities. The site coordinators expressed their evaluations using checklists and by writing comments.

Class Rating Form

At each class session participants completed a Class Rating Form (CRF). This form consisted of two distinct parts and asked for the participants' impressions of the televised seminar and lab materials on a five-point scale of one equaling strongly disagree with the statement to five equaling strongly agree with the statement. One-third of the participants filled out the form for a given class session. The class was randomly divided into three groups which rotated in completing the forms.

TABLE 3

FACTOR LOADINGS FOR SELECTED CAREER EDUCATION ATTITUDE ITEMS

Item	Unrotated Factor Loading
1. The school program should include career development.	.902
2. Career education should be a continuous life-long process.	.887
3. Information about careers should be integrated with school curriculum.	.915
4. The community is an excellent resource to use in a career education program.	.918
5. I am willing to take the time to find community resources for a career education program.	.887
6. I consider what people do in their occupations when I organize my teaching plans.	.765
7. A commitment from the school administration is necessary for a successful career education program.	.642
8. Schools have the responsibility to help students develop career objectives.	.898
9. Students should have experience in the world of work before leaving school.	.868
10. The school curriculum should be related to the career goals of the student.	.876
11. Parents should be aware of career education experiences occurring in the school system.	.946
12. It is important that career education activities be incorporated and emphasized in the junior and senior high school.	.956
13. Children in elementary school are too young to start thinking about career possibilities.	-.787
14. The school guidance personnel should have responsibility for career education.	*
15. The classroom teacher should be responsible for career education.	.460

* Item deleted.

TABLE 3 (continued)

Item	Unrotated Factor Loading
16. Career education is just another fad that will soon be forgotten.	-.731
17. Career education will help students make realistic career choices.	.921
18. Students should be permitted to miss regular classes in order to go on field trips.	.659
19. It is important for children to be taught a work ethic.	.857
20. I feel that career education should be included in the curriculum experiences of each child.	.948
21. A commitment from the classroom teacher is needed for a successful career education program.	.885
22. I am aware of what my colleagues are doing in the area of career education.	*
23. I help my students develop occupational awareness through the use of film strips, field trips and speakers.	.707
24. I have discussed at length career education procedures with my colleagues.	*
25. Subject matter lesson plans should include career information.	.834
26. I consider career exploration activities when devising my lesson plan.	.736
27. Public school teachers should know the community employment needs.	.901
28. Enough emphasis is already placed on career education in the schools.	-.721
29. Career education in junior high school is futile since a person will change his mind several times before picking a lifetime career.	-.630
30. Different academic departments should work together in devising a career education program for their schools.	.799
31. Career education is best taught in the vocational arts and the home economics departments of junior and senior high schools.	-.497
32. Students have a satisfactory number of career options open to them.	*

* Item deleted.

Means and standard deviations were computed for each item. The questions pertaining to the seminars and those related to the lab activities were separately analyzed using principal axes factor analysis. The analysis was performed on the administration of the instrument for the fifth class session (N = 75). Loadings for the eleven items querying reactions to the seminar indicated that there was one underlying construct, with only one item being deleted because its loading was less than ± .3. The first factor accounted for 77% of the common variance. By deleting two items from the eleven questions related to the laboratory activities, one underlying construct was also found. The first factor accounted for 65% of the common variance. Table 4 presents the unrotated loadings.

For each session, separate factor means were obtained for the seminar and laboratory by summing across the item ratings for the items that were included in each factor. Negative items were reversed when obtaining factor means.

Feedback Questionnaire

The Feedback Questionnaire (FQ) was administered to one-third of each class after the fifth, tenth and fifteenth class meetings. The purpose of the questionnaire was to have the participants rate nine aspects of the instructional activities carried out during that portion of the course according to the quantity of useful information and to provide the participants with an opportunity to write comments and suggestions pertaining to the course (see Appendix 3, Item E for an example of this instrument). The students were instructed to use the average education course as their standard of reference. A five-point rating scale was used

TABLE 4

FACTOR STRUCTURE OF THE CLASS RATING FORM FOR CES COURSE -- FALL, 1974

Part I: The Seminar		Part II: The Laboratory Activities	
Item	Unrotated Factor Loading	Item	Unrotated Factor Loading
1. Seminar objectives defined	.82	12. Activities were organized	.79
2. Transitions provided	.82	13. Too much material was included in activities	*
3. Seminar content was useful	.81	14. Activities were explained adequately	.58
4. Seminar participants' responses to questions were not adequate	*	15. Purpose of activities was not clear	-.34
5. Film illustrations were useful	.55	16. Materials were available	.79
6. Seminar participants were experts	.74	17. Activities were interesting	.76
7. Time to prepare and send questions was adequate	.62	18. Interaction with others was helpful	.78
8. Discussion was interesting	.81	19. Activities could be completed seccessfully	.52
9. Presentation was not organized	-.45	20. Activities were not useful	-.41
10. Seminar participants were not aware of classroom problems	-.37	21. Activities were more useful than the seminar	*
11. Seminar was relevant	.69	22. Activities improved understanding of seminar content	.64

with one meaning "unacceptable" and five "outstanding." Means and standard deviations were computed for each administration of the instrument.

Information Systems Questionnaire

During the last class session participants completed the Information Systems Questionnaire (ISQ). This instrument had two parts. Part I was concerned with the participants' attitudes toward the information systems presented in class. The 14 items in Part I were Likert type items to which the participants responded on a scale where one equaled strongly disagree with the statement and five equaled strongly agree with the statement. Means and standard deviations were calculated for each item in this section.

Part II of the instrument was concerned with the degree to which participants used the information systems to assist them in developing course materials in the classes they teach. These items were dichotomous (yes/no) and frequency counts of the responses were tabulated.

Summative Comments Form

The Summative Comments Form (SCF) was administered to measure the site coordinators' perceptions of the overall effectiveness of the course. On the first part of the instrument site coordinators were asked to state what they liked or disliked about the course, giving reasons for their comments. The second part of the questionnaire requested that site coordinators rate the overall quality of seminars, lab activities and evaluation forms on a Likert scale of one (excellent) to seven (unacceptable). The areas for which each of these topics were rated included: content, quality of presentation, student reaction, and relation to other activities. Mean scores were calculated for each of these items.

Technical Aspects

Transmission of live television seminars from the RCC at the University of Kentucky to teachers at 15 sites in Appalachia required the interfacing of several technologies. A diagram of the television transmission/reception system is presented on page 27 and a diagram of the audio transmission/reception system is presented on page 28. Also included is a picture of the television reception equipment, on page 29.

The ATS-6 satellite was used for the delivery of the televised video and audio signal. The interfacing techniques for this transmission included telephone links from Lexington, Kentucky, to Rosman, North Carolina, for uplink to ATS-6. Each classroom site was equipped with a parabolic antenna to receive the signal from ATS-6 (see picture of audio-video parabolic and two-way radio antennas). Only one RESA receiving site reported difficulty with this parabolic antenna during the 16 weeks the course was offered. (See Table 5, on page 30.)

Another important component of the seminar delivery was a second satellite, ATS-3. Capable of relaying audio transmission in voice or data mode, ATS-3 conveyed audience questions from the five main RESAs to the RCC via voice or teletype (see picture of question transmission equipment). Ancillary sites transmitted questions via teletype landline to the main sites for retransmission to the RCC. Table 5 shows that there were ten cases of equipment trouble related to ATS-3 transmission. None of these occurred in the two-way radio helical antenna used to receive ATS-3 communications. Five were the result of cable trouble between the antenna and the digital coordinator which translated the satellite impulses into sound, and five were with the digital coordinator. In addition, 19 cases of teletype trouble were reported during the 16 weeks.

Teletype difficulties were responsible for slightly more than half the technical problems (19 out of 37). These difficulties were not related to the satellite nor to the satellite delivery systems but were in the teletype units themselves. When these problems occurred, questions were relayed via telephone to the main site. Thus, student questions were still forwarded to seminar panelists.

The quality of video and audio reception for ATS-6 was reported by the site coordinators each week. As may be seen in Table 6, the audio and video were lost for all 15 sites on the first class session due to a failure at the Rosman uplink. However, other than this, only two sites reported losing either the audio and video or audio alone for the remaining 15 sessions.

The audio and video signals of ATS-6 were rated excellent 85% of the time, were rated as having minor distortion 7% of the time, and were rated as poor or lost 8% of the time. (This includes program 1.)

There were 1440 possibilities for site technical difficulties during this course. (15 sites x 16 sessions x 6 major equipment components.) During this time, 37 problems occurred (Table 5), or in other terms, technical difficulties were a factor in some aspect of course delivery 2.5% of the time. Thus, the overall site equipment reliability was approximately 97.5%. When a site missed a television program, it was made available via video cassette. While participants missed the opportunity to interact with seminar participants if a seminar was not transmitted, they were exposed to the content of the program.

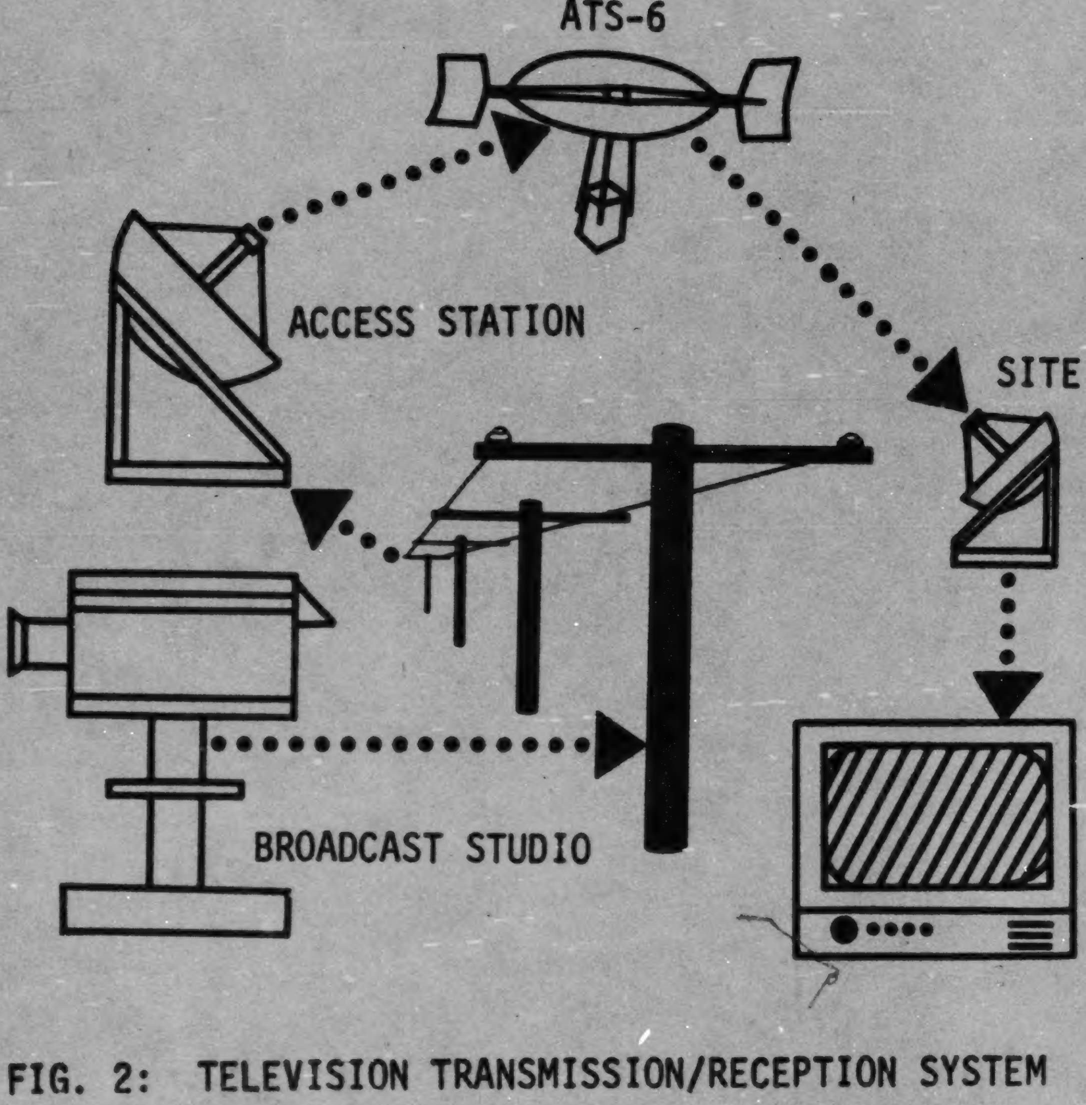
ATS-6
ACCESS STATION
SITE
BROADCAST STUDIO

FIG. 2: TELEVISION TRANSMISSION/RECEPTION SYSTEM

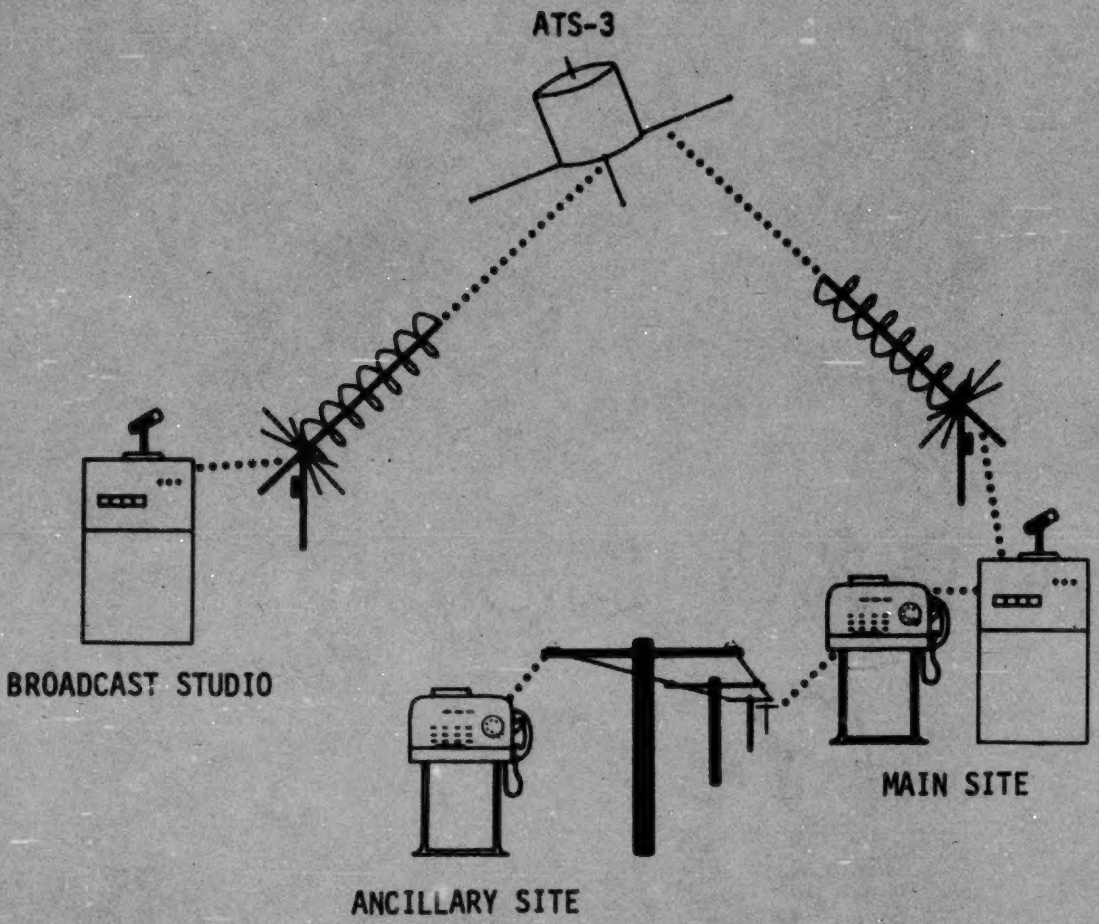
ATS-3
BROADCAST STUDIO
MAIN SITE
ANCILLARY SITE

FIG. 3: AUDIO TRANSMISSION/RECEPTION SYSTEM

TABLE 5

FREQUENCY OF EQUIPMENT TROUBLE AS REPORTED ON THE SITE COORDINATOR CHECKLIST FOR THE CES COURSE -- FALL, 1974

Equipment	Sessions (Sept. - Dec., 1974)																Total Number of Problems
	1 9/3	2 9/10	3 9/17	4 9/24	5 10/1	6 10/8	7 10/15	8 10/22	9 10/29	10 11/5	11 11/12	12 11/19	13 11/26	14 12/3	15 12/10	16 12/17	
Parabolic Antenna			1														1
Helical Antenna																	0
Interconnecting Cables	1	1					1			1	1						5
Digital Coordinator	1	2		1			1										5
TV Monitor/ Receiver				1			2	1	1	1	1						7
Teletype	4	3	1	1		1	3	[illegible]		1		2		2			19
TOTALS	6	6	2	3	0	1	7	2	1	3	2	2	0	2	0	0	37

TABLE 6

VIDEO AND AUDIO SIGNAL STRENGTH AS REPORTED ON SITE COORDINATOR CHECKLIST

	Session															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Audio Signal ATS-6	*															
None		1			1											
Poor						1	1									
Major Distortion																
Minor Distortion		2			1		1	2	2	1	3				1	
Excellent		10	13	14	13	14	13	13	13	12	11	15	13	11	13	14
Video Signal ATS-6	*															
None		1														
Poor					1											
Major Distortion																
Minor Distortion		3	2	1	1	1	1	1			2	1	2		1	
Excellent		9	11	13	13	14	14	14	15	13	12	14	11	11	13	14

*No rating for week one due to problems with transmission line between Lexington and the uplink at Rosman, North Carolina.

Reactions to Course Structure and Content

Seminars

Table 7 presents the site coordinators' subjective evaluations of the students' overall satisfaction with each seminar and associated laboratory activities session. Discounting the first class session when the seminar was not presented at each site due to audio connecting difficulty at Rosman, N. C., the range of high satisfaction scores during seminars was from a high of 62 percent to a low of 21 percent. Programs are ordered according to the percentage of site coordinators indicating high student satisfaction (omitting program 1) in Table 8.

Inspection of the content of the seminars with which site coordinators indicated the highest percentage of satisfaction shows that sessions which were of a "how to do it" nature were the best received. Programs that were more of a theoretical nature such as "Attitudes Toward Career Education" were ranked lower. Site coordinator comments, which appear in Appendix 4, Item A, support this conclusion. For example, site coordinators stated:

> "By their responses and attitudes, the participants seemed to relate best to non-theoretical programs -- especially seminars 3, 11, 14 and 15."
>
> "Generally, all the programs which utilized action sequences filmed outside the studio were received well and, thus, held the students' attention longer. The programs on stereotyping and career clusters are two such examples. This technique provides 'on the site' examples which are invaluable aids in helping to explain and reinforce otherwise obscure points to teachers."
>
> "Our teachers were less receptive to pure talk programs that had as a panel college personnel and outside experts. Teachers relate best to other teachers. Programs which incorporate sheer discussion for an hour can become tedious, even for teachers."

TABLE 7

RATINGS OF STUDENT SATISFACTION WITH SEMINAR AND LABORATORY ACTIVITIES ACROSS SITES FROM SITE COORDINATORS CHECKLIST FOR CES COURSE - FALL 1974

Part I: Seminar

Rating	Session 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
High Satisfaction	4 (100%)	7 (58%)	7 (54%)	8 (57%)	7 (50%)	5 (38%)	7 (46%)	3 (21%)	8 (53%)	6 (46%)	9 (60%)	5 (33%)	5 (38%)	4 (50%)	8 (62%)	6 (43%)
Moderate Satisfaction	0	5 (42%)	5 (38%)	6 (43%)	7 (50%)	7 (54%)	6 (40%)	8 (58%)	5 (33%)	5 (38%)	6 (40%)	7 (47%)	7 (54%)	4 (50%)	5 (38%)	6 (43%)
Low Satisfaction	0	0	1 (8%)	0	0	1 (8%)	2 (14%)	3 (21%)	2 (14%)	2 (16%)	0	3 (20%)	1 (8%)	0	0	2 (14%)
Number of Sites Reporting	4	12	13	14	14	13	15	14	15	13	15	15	13	8	13	14

Part II: Laboratory

Rating	Session 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
High Satisfaction	5 (38%)	3 (30%)	3 (23%)	3 (21%)	8 (53%)	9 (64%)	7 (46%)	6 (43%)	8 (53%)	6 (46%)	11 (73%)	9 (60%)	6 (46%)	3 (37%)	8 (62%)	
Moderate Satisfaction	7 (54%)	6 (60%)	6 (46%)	8 (58%)	5 (33%)	4 (29%)	7 (46%)	8 (57%)	7 (47%)	7 (54%)	4 (27%)	6 (40%)	5 (38%)	5 (63%)	5 (38%)	
Low Satisfaction	1 (8%)	1 (10%)	4 (31%)	3 (21%)	2 (14%)	1 (7%)	1 (8%)	0	0	0	0	0	2 (16%)	0	0	
Number of Sites Reporting	13	10	13	14	15	14	15	14	15	13	15	15	13	8	13	

TABLE 8

RANKING OF SEMINARS FROM SITE COORDINATOR RATINGS

Program Number	Subject	Percent Indicating High Satisfaction
15	Student Units II	62
11	Stereotypes	60
2	Relationship of Work, Careers and Education	58
4	Career Education Coordination at All Levels of Education	57
3	Understanding the Wide Range of Occupations: Clustering as a Means	54
9	Problems in Program Planning I	53
5	Coordination and Integration of Career Education at All Levels of Education	50
14	Student Units I	50
7	Career Education Programs and Resources	46
10	Problems in Program Planning II	46
16	The Future of Career Education	43
6	The Secondary School Student	38
13	Staff Involvement in Training	38
12	Attitudes Toward Career Education	33
8	The Community as a Resource	21

Table 9 presents the items included on the seminar rating forms completed by a group of participants at each class session. Mean scores and standard deviations were computed. Scores range from 5 which was interpreted as strong agreement with the statement to 1 which was strong disagreement. Table 10 gives mean factor scores for each of the seminars. Inspection of these two tables shows that participants had good attitudes toward the first programs and that these attitudes dropped during the middle of the course. The mean ratings then increased for the last 5 programs.

The excitement of participation in the project and the experience with a new format for graduate course delivery were probably important factors in participants giving high ratings to the first seminar programs. Inspection of Table 11 which gives the factor means for the class rating form shows a relatively low rating for program 3, followed by a higher rating for program 4 and a low rating for program 5. With the exception of program 7, programs 6 through 10 received relatively lower ratings when compared to later programs. From the comments solicited from participants and the week-to-week reports provided to the content personnel by the evaluation component, it was evident that by week five the participants were discouraged with the seminar format. Visits by RCC personnel to the sites and calls to site coordinators confirmed these reports. Some of the comments from the site coordinators illustrate these problems.

> "As the course entered its 5th or 6th week, there were complaints of boredom and suggestions that the course format was monotonous to the point of distraction."

TABLE 9

MEANS AND STANDARD DEVIATIONS FOR CES COURSE CLASS RATING FORM - SEMINAR SECTION -- FALL, 1974

Mean (Standard Deviation)	Program															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Item																
1. The seminar host clearly identified what the unit would cover	4.11 (1.07)	4.03 (1.30)	3.58 (1.45)	4.08 (1.20)	3.68 (1.26)	3.87 (1.26)	4.09 (1.11)	3.89 (1.29)	3.65 (1.48)	3.64 (1.29)	3.99 (1.39)	4.17 (1.06)	4.22 (1.08)	4.32 (0.99)	4.21 (1.02)	4.06 (1.23)
2. Adequate transition between ideas were provided	3.70 (0.93)	3.88 (1.13)	3.39 (1.19)	3.43 (1.17)	3.40 (1.14)	3.42 (1.24)	3.81 (1.02)	3.62 (1.01)	3.63 (1.08)	3.19 (1.22)	3.76 (1.22)	3.83 (1.01)	3.91 (1.00)	4.02 (0.96)	3.87 (0.87)	3.93 (1.07)
3. What I learned during the semester will be useful to me as a classroom teacher	3.70 (0.93)	3.76 (1.15)	3.31 (1.19)	3.73 (1.07)	3.41 (1.22)	3.31 (1.17)	3.64 (1.16)	3.24 (1.27)	3.58 (1.25)	2.93 (1.23)	3.67 (1.21)	3.45 (1.02)	3.81 (1.06)	3.71 (1.05)	3.77 (1.04)	3.88 (1.08)
4. The seminar presenters did not provide adequate responses to the questions generated by course participants	2.98 (1.18)	2.94 (.30)	3.11 (1.18)	3.25 (1.33)	2.84 (1.35)	2.73 (1.26)	2.53 (1.32)	2.69 (1.32)	2.88 (1.38)	2.80 (1.40)	2.63 (1.35)	2.32 (1.21)	2.09 (1.17)	2.33 (1.23)	2.43 (1.01)	2.25 (1.12)
5. The filmed sections of today's broadcast were helpful in understanding the content of the seminar	3.47 (1.18)	3.75 (1.14)	3.64 (1.28)	3.83 (1.23)	3.25 (1.25)	3.46 (1.18)	3.45 (1.08)	3.56 (1.28)	3.03 (1.38)	3.20 (0.98)	3.77 (1.40)	3.56 (1.12)	3.56 (1.20)	4.09 (0.87)	3.83 (0.96)	3.41 (0.99)
6. The seminar presenters were obviously quite expert in the content areas discussed	3.85 (1.14)	4.03 (1.23)	3.54 (1.29)	3.41 (1.32)	3.56 (1.27)	3.45 (1.22)	4.06 (1.05)	3.80 (1.10)	3.41 (0.93)	3.03 (1.16)	3.43 (1.16)	3.98 (0.96)	4.28 (1.15)	4.00 (0.93)	3.80 (1.01)	4.23 (1.08)
7. There was adequate time allowed for the preparation and transmission of questions for the seminar presenters	3.33 (1.18)	3.44 (1.26)	3.13 (1.23)	3.49 (1.20)	3.36 (1.16)	3.34 (1.12)	3.59 (1.16)	3.23 (1.36)	3.84 (1.11)	3.48 (1.07)	3.48 (1.19)	3.58 (0.98)	3.59 (0.94)	3.91 (1.11)	3.69 (0.99)	4.03 (1.09)
8. The seminar presentation was interesting	3.64 (0.99)	3.89 (1.18)	3.18 (1.26)	3.74 (1.11)	3.40 (1.27)	3.58 (1.22)	3.82 (1.17)	3.68 (1.17)	3.84 (1.23)	3.09 (1.35)	3.81 (1.29)	3.73 (1.12)	3.91 (1.16)	3.82 (1.04)	3.72 (0.97)	4.00 (1.11)
9. The seminar presentation was not well organized	3.02 (1.36)	2.38 (1.44)	2.94 (1.38)	2.59 (1.26)	3.61 (1.34)	2.34 (1.26)	2.31 (1.29)	2.10 (1.03)	2.28 (1.22)	2.88 (1.38)	2.27 (1.23)	2.08 (1.08)	2.00 (1.10)	2.13 (1.01)	2.43 (1.19)	2.06 (1.22)
10. I feel that the seminar presenters were not really aware of actual classroom community problems	3.11 (1.40)	2.81 (1.36)	2.98 (1.33)	2.65 (1.37)	2.85 (1.40)	2.76 (1.33)	2.21 (1.32)	2.41 (1.19)	2.26 (1.24)	2.41 (1.19)	2.61 (1.42)	2.33 (1.26)	2.03 (1.28)	1.80 (0.88)	2.46 (1.30)	2.56 (1.32)
11. The seminar dealt with the topics I wanted to hear about	3.63 (0.95)	3.52 (1.03)	3.43 (1.12)	3.51 (1.01)	3.40 (1.03)	3.39 (1.15)	3.67 (1.23)	3.60 (1.26)	2.87 (1.31)	2.94 (1.29)	3.61 (1.18)	3.62 (1.08)	3.55 (1.24)	3.77 (1.03)	3.47 (1.16)	3.81 (1.01)
Number of Respondents	47	64	63	80	87	71	78	84	73	69	67	59	58	56	61	64

TABLE 10

FACTOR MEANS FOR CLASS RATING FORM FOR THE CES COURSE -- FALL, 1974

Factor	Items On Factor	Session															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seminar Section																	
Participant attitude toward organization, presentation, and utility of the seminar.	1-3 5-11	3.53	3.71	3.33	3.60	3.30	3.47	3.76	3.61	3.53	3.22	3.66	3.75	3.88	3.97	3.75	3.87
Laboratory Section																	
Participant attitude toward organization, purpose, and utility of laboratory session.	12, 14-20 22	3.61	3.48	3.30	3.48	3.39	3.47	3.80	3.56	3.52	3.52	3.40	3.72	3.75	3.94	3.77	

TABLE 11

ITEM MEANS AND STANDARD DEVIATIONS FOR FEEDBACK QUESTIONNAIRE CES COURSE - FALL, 1974

Item		Administration Number			Overall
		1	2	3	
1. Pre-Seminar Preparation compared to work usually assigned in other graduate classes prior to covering materials in class.	Mean	3.066	3.148	3.813	3.325
	S.D.	.998	.833	.833	.520
	N	76	54	60	190
2. Televised Interactive Seminars compared to other graduate seminars and class discussions.	Mean	3.455	2.895	3.475	3.298
	S.D.	.789	1.145	.924	.545
	N	77	57	61	195
3. The Film Segments used during the interactive seminar as sources of stimulation for the seminar discussions.	Mean	3.437	3.283	3.742	3.495
	S.D.	.890	.863	.957	.521
	N	71	53	62	186
4. The Seminar Host and Guests as competent and informative duscussants of the seminar topic.	Mean	3.785	3.345	4.095	3.761
	S.D.	.795	.947	.777	.480
	N	79	55	63	197
5. Laboratory Activities compared to laboratory activities associated with other graduate courses.	Mean	3.308	3.054	3.250	3.217
	S.D.	1.097	.961	.895	.575
	N	78	56	60	194
6. Follow-up Activities and homework assignments comapred to similar activities in other graduate courses.	Mean	3.090	3.036	3.246	3.123
	S.D.	.856	.873	.977	.518
	N	78	56	61	195
7. On-Site Reference Materials compared to materials placed on reserve by other graduate instructors.	Mean	3.855	3.732	4.195	3.927
	S.D.	.976	.963	.792	.528
	N	76	56	61	193
8. Retrieval System Materials compared to materials instructors in other graduate courses locate to help specific individuals.	Mean	3.395	3.544	3.623	3.510
	S.D.	1.072	.983	1.128	.613
	N	76	57	61	194
9. The Site Monitor as an effective course leader	Mean	3.910	4.105	4.300	4.087
	S.D.	.914	.772	.830	.488
	N	78	57	60	195

> "November 15 was considered dull -- several of the earlier programs were frustrating because questions were not specifically answered. The class felt that a radio would have been as effective. . . they wished to see career education in action."

Working to improve the content of the sessions, the content experts included more film showing classroom teachers, provided on-camera illustrations of learning centers, and instructed seminar panelists to give examples of career education in the classroom when responding to questions. Higher ratings for programs 13-16 are indicative of the success of the restructuring of the programs and attest to the value of the formative evaluation process.

Using previously taken graduate education classes as a point of comparison the participants were asked to rate the career education course on a scale of 5 as outstanding to 1 as unacceptable. Table 11 presents the results of the administration of the Feedback Questionnaire on three separate occasions (after the fifth, tenth and fifteenth classes). Ratings for the third administration following the fifteenth class session were the highest. The seminar participants (item 4) received relatively high ratings during two of the three administrations (means = 3.785, 3.345 and 4.095). The seminars (item 2) were rated as average when compared to other graduate education classes (means = 3.455, 2.895 and 3.475).

Site coordinators were well regarded (item 9). This is interesting in that none of the coordinators were subject matter experts. Their role was to facilitate rather than instruct and yet they compared favorably with other instructors (means = 3.910, 4.105 and 4.300).

Using a seven-point Likert scale (1 = excellent, ..., 4 = neutral, ..., 7 = unacceptable) the site coordinators' impressions of the participants' overall reactions to the seminars, activities and evaluation were solicited on the Summative Comment Form during the last session. Areas of evaluation included content, quality of presentation, student reaction and reaction to other activities (see Table 12). Participants were slightly positive in their reactions to the seminars (mean rating = 3.56).

Laboratory Activities

Appendix 2 contains a summary of the laboratory activities. The site coordinators' perceptions of student satisfaction with each laboratory session were presented in Table 7. It is interesting to note that when a seminar program received a high satisfaction rating from the site coordinators, the laboratory did not necessarily receive one. The laboratory activity which had the highest rating was associated with program 11 and was composed of discussion type activities, as were laboratories 12 and 15 which also received high ratings. The primary laboratory activities during weeks 3 and 4 which received the highest percent of low satisfaction ratings were individual work and readings.

Site coordinator comments regarding ancillary materials included:

> "...More discussion time appears to be needed after each seminar. Our teachers really enjoyed discussing the seminars."

> "Less 'busywork' and more practical exercises that teachers can incorporate into their classroom studies. Explicit defining of what is wanted in homework is needed. Not understanding what was to be included in homework was a main concern of teachers. A lighter homework load, especially the first few weeks..."

Mean scores and standard deviations for the student ratings of the laboratory activities are presented by item in Table 13 and are summarized

TABLE 12

MEAN RATINGS ON SUMMATIVE COMMENT FORM FOR THE CES COURSE -- FALL, 1974

	Mean Rating
Television Seminars	
Content	3.00
Quality of Presentation	3.50
Student Reaction	3.75
Relation to Other Activities	4.00
Laboratory Activities	
Content	2.75
Quality of Presentation	3.42
Student Reaction	3.67
Relation to Other Activities	3.67
Evaluation Forms	
Content	2.25
Quality of Presentation	2.67
Student Reaction	3.00
Relation to Other Activities	3.17

12 sites reporting
7 point Likert scale
with 1 = excellent
7 = unacceptable

TABLE 13

MEANS AND STANDARD DEVIATIONS FOR CES COURSE CLASS RATING FORM - LABORATORY ACTIVITIES -- FALL, 1974

Mean (Standard Deviation)	Program															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Item																
12. The laboratory activities were logically organized	3.73 (1.20)	3.42 (1.08)	3.33 (1.27)	3.57 (1.20)	3.51 (1.11)	3.93 (1.16)	3.72 (1.10)	3.42 (1.18)	3.62 (1.20)	3.34 (1.12)	3.78 (1.13)	3.87 (0.96)	3.78 (1.22)	3.94 (0.98)	3.85 (0.80)	3.79 (0.91)
13. Too much material was included in the laboratory session	3.73 (1.26)	3.48 (1.26)	3.26 (1.61)	3.29 (1.48)	3.30 (1.23)	3.34 (1.20)	3.28 (1.37)	3.39 (1.31)	3.01 (1.23)	3.08 (1.19)	2.73 (1.29)	3.58 (1.19)	2.98 (1.35)	2.21 (1.28)	2.68 (1.14)	2.69 (1.45)
14. Adequate explanation was included in the laboratory activities	3.63 (1.23)	3.38 (1.16)	3.41 (1.40)	3.45 (1.22)	3.26 (1.27)	3.21 (1.14)	3.75 (1.05)	3.48 (1.28)	3.53 (1.19)	3.23 (1.11)	3.79 (1.22)	3.78 (1.04)	3.63 (1.20)	4.02 (1.06)	3.74 (0.90)	3.82 (0.92)
15. The purpose of the laboratory activities was not clear to me	2.92 (1.32)	2.89 (1.31)	2.86 (1.42)	2.84 (1.39)	2.99 (1.27)	2.46 (1.25)	2.37 (1.30)	2.66 (1.40)	3.08 (1.38)	2.67 (1.30)	2.22 (1.30)	2.47 (1.23)	2.29 (1.42)	1.92 (1.19)	2.09 (1.02)	2.22 (1.29)
16. It was easy to gain access to the materials needed to perform the laboratory activities	3.82 (1.32)	3.68 (1.17)	3.47 (1.36)	3.35 (1.16)	3.42 (1.00)	3.59 (1.19)	3.71 (1.15)	3.74 (1.18)	3.90 (0.97)	3.65 (1.05)	3.84 (1.26)	4.00 (0.98)	3.84 (1.17)	3.83 (1.10)	3.94 (0.99)	3.78 (1.16)
17. The laboratory activities were interesting	3.94 (1.26)	3.62 (0.98)	3.39 (1.18)	3.62 (1.21)	3.45 (1.10)	3.56 (1.13)	3.94 (1.03)	3.67 (1.20)	3.89 (1.04)	3.61 (1.15)	3.97 (1.20)	3.85 (0.96)	3.76 (1.23)	4.00 (1.13)	3.83 (1.10)	3.75 (1.08)
18. The interaction with other clas members during the laboratory session was helpful	3.98 (1.19)	3.81 (1.21)	3.40 (1.23)	3.93 (1.33)	3.86 (1.24)	4.10 (1.08)	4.20 (1.03)	4.06 (1.33)	4.03 (1.13)	4.20 (0.99)	3.90 (1.28)	4.15 (0.98)	4.20 (1.05)	4.17 (1.01)	3.55 (1.37)	4.17 (0.92)
19. I was able to successfully complete the laboratory activities	3.55 (1.27)	3.30 (1.29)	3.15 (1.43)	3.24 (1.36)	3.31 (1.28)	3.41 (1.31)	3.68 (1.29)	3.57 (1.37)	3.88 (1.11)	3.75 (1.08)	3.73 (1.31)	3.41 (1.30)	3.18 (1.45)	3.88 (1.08)	3.58 (1.34)	3.91 (1.20)
20. What I learned during the laboratory activities will not be useful to me as a classroom teacher	2.46 (1.49)	2.70 (1.41)	2.83 (1.30)	2.48 (1.27)	2.57 (1.36)	2.45 (1.29)	2.03 (1.12)	2.48 (1.29)	2.24 (1.09)	2.46 (1.34)	2.32 (1.26)	2.31 (1.10)	1.98 (0.97)	2.04 (1.17)	2.11 (1.10)	2.22 (1.36)
21. The laboratory activities were more useful than the televised seminar in demonstrating the practical use of concepts and procedures	3.61 (1.35)	3.12 (1.23)	3.17 (1.40)	3.10 (1.31)	3.20 (1.13)	3.32 (1.19)	3.45 (1.06)	3.30 (1.29)	3.26 (1.43)	3.43 (1.13)	3.26 (1.01)	3.23 (1.23)	3.35 (1.18)	2.90 (1.11)	3.13 (1.18)	2.48 (1.26)
22. The laboratory activities helped me to understand the procedures presented in the seminar better	3.25 (1.20)	3.67 (1.11)	3.23 (1.30)	3.46 (1.25)	3.26 (1.13)	2.30 (1.23)	3.57 (1.16)	3.28 (1.17)	3.16 (1.27)	3.03 (1.12)	3.51 (1.12)	3.17 (1.16)	3.65 (1.07)	3.60 (1.12)	3.67 (1.00)	3.69 (1.24)
Number of Respondents	49	58	69	70	80	60	76	79	71	62	61	58	51	52	52	32

in Table 10. It is evident in Table 10 that there is a high correlation between attitudes toward the seminars and laboratories. Responses to item 20 (Table 14) indicate that teachers thought that the lab activities were useful to them. Responses to item 18, which measures the perceived value of interaction among class members, support the site coordinators evaluation that students were more satisfied with laboratories which involved group activities. For example, activities during week 3 which received the lowest ranking of 3.30 included 4 readings. The week receiving the highest rating (week 14, 3.94) was a discussion of the seminar content.

Laboratory activities received average ratings on item 5 of the FQ (means - 3.308, 3.054 and 3.250) when compared by participants to laboratory experiences in other graduate education classes (see Table 12). The site coordinators assigned the laboratory activities an above average rating in content (mean - 2.75) and a neutral rating on quality of presentation (mean - 3.42), student reaction (mean = 3.67) and relation to other activities (mean - 3.67) in their summative evaluation of the course (see Table 13).

Examination of site coordinator and student evaluations of seminars and lab activities provides some interesting points for discussion. First, there exists some inconsistency between site coordinators' perceptions of students' satisfaction with programs and activities and the students' ratings. Site coordinators tended to rate the first programs low while participants gave them higher ratings. One explanation for this may be that site coordinators were rating their own satisfaction with the program and not necessarily their perception of student satisfaction.

Secondly, site coordinators and participants tended to place a high value on the videotaped classroom scenes and examples of career education at work. In the future, seminar formated courses might be of more value to participants if they were budgeted to include more filming. Participants did assign a relatively high rating of 3.76 to the seminar host and guests which indicated that they felt they were competent.

Information Systems

It is evident from the responses to Part I of the Information Systems Questionnaire (Table 14) that the students felt that they would use both CBRU and AIM/ARM if they were made available to them in their school system (mean = 4.013 and 3.831). They would also recommend the systems to other teachers (mean = 3.962 and 3.749). Lower ratings assigned to the ease of use and the accessibility of the systems indicate that improvements should be made in these areas to promote maximum use on the part of course participants.

Part II, Section A indicates that while teachers say they would use the systems if located in their schools, two-thirds made no use of the systems beyond class requirements. In the case of both systems, students stated that they did not run additional searches because the required search met their needs, and/or they didn't have time to study the manual. Students suggested that the manuals and forms needed to access the systems be simplified and the systems be further explained if they were to be used more. They also felt that instructional materials suggested by search results for use in the classroom should be made available in the schools. Larger libraries of materials at the career education classroom sites were also suggested. Responses to the FQ (see Table 11) indicate

TABLE 14

RATINGS ON INFORMATION SYSTEMS QUESTIONNAIRE FOR THE CES COURSE - FALL, 1974

Part I		
Item	Mean	S.D.
1. The CBRU Reference Manual and the example CBRU search adequately explained how to use and interpret this information system.	3.615	1.258
2. The AIM/ARM reference materials adequately explained how to use and interpret this information system.	3.44	1.211
3. The search request form for the CBRU information system was clear in its format.	3.640	1.190
4. It took too long to receive information from the CBRU system.	2.795	1.260
5. The CBRU information search provided me with the information I wanted.	3.534	1.176
6. The AIM/ARM information searches on the reference shelf provided me with the information I wanted.	3.371	1.137
7. The CBRU information system was easy to use.	3.466	1.229
8. The information received from the CBRU information searches was easy to interpret.	3.53	1.178
9. The information contained in the AIM/ARM information searches was easy to interpret.	3.372	1.061
10. The CBRU information system is well worth the time and effort it took to use it.	3.627	1.184
11. If the CBRU information system were available to me, in my school system, I would use it to aid me in my teaching.	4.013	1.113
12. If the AIM/ARM information system were available to me, in my school system, I would use it to aid me in my teaching.	3.831	1.096

TABLE 14 (continued)

Part I (continued)		
Item	Mean	S.D.
13. I would recommend the CBRU information system to my fellow teachers.	3.962	1.164
14. I would recommend the AIM/ARM information system to my fellow teachers.	3.747	1.155

Part II					
Section A	Frequency				
	0	1	2	3	4 or more
15. How many non-required CBRU searches requested.	160 (67%)	52 (22%)	17 (7%)	6 (2.5%)	4 (1.5%)
16. How many non-required AIM/ARM searches requested.	141 (61%)	63 (26%)	17 (7%)	2 (1%)	11 (5%)

Section B Reasons Not Run CBRU Search	Frequency		Percentages	
	Yes	No	Yes	No
Item				
17. I did not need to run additional CBRU searches as the in-class search provided me with all the information I required to develop my career education materials.	100	73	58	42
18. I did not have the time to carefully study the manual so I could run a search.	81	89	48	52

TABLE 14 (continued)

Section B Reasons Not Run CBRU Search	Frequency		Percentages	
	Yes	No	Yes	No
Item				
19. The directions and procedures to request a search were confusing and made it difficult to use the system.	56	111	34	66
Section C **Reasons Not Run AIM/ARM Search**				
Item				
20. I did not need to run an AIM/ARM search because the searches on reference shelf fulfilled my needs for career education resources.	118	51	70	30
21. I did not have the time to carefully study the manual so I could run a search.	108	62	64	36
22. The directions and procedures to request a search were confusing and made it difficult to use the system.	75	93	45	55
23. I did not use the AIM/ARM information due to the inconvenience of looking up references that were not contained in the microfiche files.	68	99	41	59
24. I did not use the AIM/ARM information system because I do not like to read microfiche cards from a reader.	46	119	28	72

TABLE 14 (continued)

Section D Suggested Improvements for Information Systems Procedures	Frequency		Percentages	
	Yes	No	Yes	No
Item				
25. Have hard copy, rather than microfiche, in the AIM/ARM files.	107	124	46	54
26. Provide manuals that are easier to understand.	167	64	72	28
27. Provide simpler forms to use to request searches.	155	76	67	33
28. Give the site monitor more training in the information system so that he/she is a more effective instructor.	128	100	56	44
29. Have the site monitor explain in detail the materials that are available on the reference shelf.	156	72	68	32
30. Develop a video program that would explain the use of the information systems.	196	33	85	15
Section E Would You Have Utilized the Information Systems More If the Materials Recommended in the Searches Were Readily Available?				
Item				
31. At the AESP classroom site	173	61	74	26
32. At your school	218	17	93	7
33. At some central location (e.g., college, school district headquarters, local college, etc.)?	120	114	51	49

that the retrieval system materials were regarded as being better than materials provided in other classes (mean = 3.395, 3.544 and 3.623).

Responses to the FQ (see Table 11) show that the on-site reference materials were well regarded when compared with materials placed on reserve by other graduate instructors (mean = 3.855, 3.732 and 4.195).

Evaluation

Site coordinators were asked to rate the evaluation forms on the summative comments questionnaire (Table 12). The content of the evaluation items was viewed as very good (mean = 2.25) and the quality of presentation (mean = 2.67), student reaction (mean - 3.00) and relation to other activities (mean = 3.17) were rated as good.

Gains in Cognitive and Affective Achievement For CES Course

On the first and last class meetings of the CES course a cognitive achievement test and the Teacher Attitudes Toward Career Education instrument were administered. In the Method section descriptions of these instruments and procedures for obtaining scores were presented. In the following section, pre- to post-gains made on the two instruments are discussed and several conclusions are drawn regarding the nature of these gains.

Analysis of Variance Design

There were five RESA triangles. Each triangle contained three classroom sites. The first two factors of the design are triangles, and sites nested within triangles. Factor one with five levels is assumed to have fixed effects, and factor two with three levels is assumed to have random effects. The third factor is made up of the pre- and post-measurements. These two measurements enter the design as a factor with two levels (occasions) with repeated measurements of subjects on the two occasions. The overall design is thus a three-way design involving nesting and including one factor with repeated measures. There are two dependent variables -- cognitive achievement and attitude. This design allows the examination of pre- to post-course gains in cognitive achievement and attitude, and of triangle and site with triangle deficiencies. Also, it allows the examination of the interaction of gains with locations.

Results of Analysis of Variance

The number of complete cases available for analysis was 195. The multivariate tests of hypotheses for the multivariate analysis of variance (MANOVA) for pre- to post-gains are given in Table 15. Significant results were obtained for occasions ($P < .0001$), occasions by triangles ($P < .0590$), and occasions by sites nested within triangles ($P < .0078$). Tests of hypotheses for the univariate analysis of variance (AOV) are given in Table 16. Significant results were obtained for occasions by triangles ($P < .0399$) on the attitude variable, and for occasions by sites within triangles ($P < .0005$) for the cognitive achievement variable. Thus, attitude changes vary by triangle and cognitive achievement gains vary by site.

The changes in attitude vary by triangles, that is to say on a regional or state basis. For all RESA triangles except one, there were substantial gains in attitude. These gains by triangle ranged from 10.0 points to 20.6 points. The one triangle with the overall drop in attitude showed a decline of 5.6 points.

TABLE 15

MANOVA TABLE FOR PRE-POST COGNITIVE AND AFFECTIVE MEASURES FOR THE CES COURSE -- FALL, 1974

Source	d.f. for Design	Mult. F	d.f.	P <
Between				
Triangles (T)	4	1.00	8, 18	.4711
Sites within Triangle (S:T)	10	1.29	20, 358	.1844
Within				
Occasions (O)	1	40.70	2, 9	.0001
O x T	4	2.40	8, 18	.0590
O x S:T	10	1.98	20, 358	.0078

TABLE 16

UNIVARIATE AND STEP-DOWN AOV'S FOR PRE-POST COGNITIVE AND AFFECTIVE MEASURES

Source	Variable	F	P<	Step-Down f	P<
Pre/Post (0)	Cognitive	88.65	.0001	88.65	.0001
	Affective	18.07	.0017	.16	.6947
0 x Triangle	Cognitive	1.61	.2404	1.61	.2404
	Affective	3.79	.0399	3.58	.0517
0 x Sites Within Traingles	Cognitive	3.36	.0005	3.36	.0005
	Affective	.76	.6689	.71	.7173

These differential gains might be due to the level of support given to the concept of career education by the state government and local school systems, or to the degree of successful career education programs sponsored in the different states. Another reason might be the level of support and enthusiasm provided to the sites by the RESA triangle staff members.

The seminars and laboratories were the same at each site, but apparently there are site related factors that affect the amount of content learned. Cognitive achievement gains by sites ranged from 15.9 points to 3.0 points. This might be due to the effectiveness or attitude of the site coordinator, the classroom arrangement, the quality of interaction among participants, or some characteristics of the particular groups of persons gathering at the sites.

The overall means on the cognitive achievement test were 27.44 (SD = 7.47) for the pretest and 35.33 (SD = 9.22) for the posttest. It may be seen that the average gain in cognitive skills was 7.89 items. The pretest mean of 27.44 indicates that the participants answered 50% of the items correctly at the beginning of the course. The posttest mean of 35.33 indicates that after the course, the participants were able to answer 64% of the items correctly.

The overall means on the attitude scale were 109.80 (SD = 30.88) for the preadministration and 119.16 (SD - 27.55) for the postadministration. The average gain in attitude toward the CES course was 9.36 points. The attitude gain, when divided by the number of items on the questionnaire, gives the average item gain for the set of five-point Likert items. The per-item gain is .31. The pre-course item mean is 3.66 and the post-course item mean is 3.97.

The within-cell correlation matrix is presented in Table 17. It may be seen that the only substantial correlation is between the pre- and post-measures on the cognitive test.

Since the results of the AOV (Table 16) indicated strong site by occasion differences for cognitive gain, a pertinent question then would be: Are the differences due to different entry levels or due to different achievement levels? MANOVAs were run using the two dependent variables by pretest (Table 18) and posttest (Table 19). There are no pretest differences for triangles ($P<.4072$) and none for sites within triangles ($P<.4917$). For the posttest there are no triangle differences ($P<.0905$) but there are strong site within triangle differences ($P<.0012$). Univariate AOV results (Table 20) indicate that the differences are found on the cognitive variable ($P<.0006$). These results reinforce the conclusions stated above that there were differential gains in cognitive skills due to factors operating at the sites.

In conclusion, the participants at each site began the course with approximately the same entry level skills and attitudes toward career education and at the end of the course, significant gains had been made in both cognitive and affective areas. The gains in attitude varied by RESA triangle, and this may be due to the level of support and enthusiasm for career education provided by the state governments, local school systems or by the RESA personnel. The gains in cognitive skills varied by sites, and indicate that even with identical seminars and laboratory lessons the level of skill acquisition is influenced by factors at the site.

TABLE 17

WITHIN-CELL CORRELATION MATRIX FOR COGNITIVE AND AFFECTIVE MEASURES

	Cognitive Pre 1	Cognitive Post 2	Affective Pre 3	Affective Post 4
1	1.000			
2	.435	1.000		
3	.121	- .121	1.000	
4	.046	.080	.116	1.000

TABLE 18

MANOVA TABLE FOR PRE COGNITIVE AND AFFECTIVE MEASURES

Source	d.f. for Design	Mult. F	d.f.	P<
Triangles	4	1.10	8, 18	.4072
Sites within Triangles	10	.98	20, 358	.4917

TABLE 19

MANOVA TABLE FOR POST COGNITIVE AND AFFECTIVE MEASURES

Source	d.f. for Design	Mult F	d.f.	P<
Triangles	4	2.11	8, 10	.0905
Sites within Triangles	10	2.3252	20, 358	.0012

TABLE 20

UNIVARIATE AND STEP-DOWN AOV'S FOR POST COGNITIVE AND AFFECTIVE MEASURES

Source	Variable	F	P<	Step-Down F	P<
Sites within					
Triangles	Cognitive	3.33	.0006	3.33	.0006
	Affective	1.60	.1086	1.38	.1908

Participant Teaching Behavior During the CES Course

The Teaching Practices Inventory (TPI) sampled participant teaching behavior from four areas, career education techniques used (items 1-46), general teaching strategies used (items 47-67), school resources and staffing (items 68-81) and curriculum development activities (items 82-134). (A copy of the TPI is presented in Appendix 3, Item C.) The TPI was administered twice: once prior to the course and a second time on the last day of class. During the precourse administration the participants were asked to report on their teaching practices during the 1973-74 school year. During the postcourse administration the participants reported their teaching practices during the Fall, 1974. The aim of these administrations was to see the degree to which the participants began to use, or increased their use of career education techniques in their classes during the time period they were taking the course.

The pre- and postcourse responses to the TPI are presented in Appendix 5. Prior to discussing the use of career education techniques, a brief summary of some of the participants' characteristics, as indicated from the TPI, is presented.

With regard to the participants general teaching strategies, almost all have had experience in traditional, self-contained classrooms (item 50, 94%), while less than half have had experience in team teaching (item 48, 42%) or open classroom (item 49, 23%) situations. They predominantly use their own lesson plans (item 63, 88%). A high percentage felt that their students were interested in school (item 57, 80%); however, they reported that parent involvement in school programs was not high (item 56, 23% pre and 33% post). They indicated that they used several techniques of student grouping: 74% use small groups (item 59), 62% use large groups (item 60) and 74% teach individually (item 61). A high proportion encourage their students to help each other (item 64, 85% pre and 93% post) and they utilize student tutors to a high degree (item 65, 70% pre and 79% post).

With regard to resources and staffing, a majority of the participants reported having had a budget for supplies and materials (item 68, 61%) and 79% reported being able to order supplies for their classes (item 69). However, only 43% felt that their school had satisfactory supplies, equipment and materials (item 70). In terms of audio-visual aids: 36% had a television (item 71), 62% had a tape recorder (item 72), 70% had a phonograph (item 73) and 75% had an overhead projector (item 74). In terms of additional staff members, a majority felt that more of the following professionals were needed: counselors (item 77, 66%), teachers (item 78, 64%), teachers' aids (item 79, 78%) and medical personnel (item 80, 49%).

Regarding curriculum development activities, the participants generally felt that they had input to the curriculum (item 86, 73% pre and 83% post) and about half reported taking part in curriculum development committees (item 89, 51%). However, while a high proportion of participants saw a need for curriculum revision in their schools (item 95, 83% pre and 88% post), only about half felt that they could assist in solving the problems seen (item 97, 46% pre and 50% post). The participants shared their ideas about curriculum mainly through informal discussions with their fellow teachers (item 99, 91%).

With regard to usage of career education techniques, there are several items that indicate an increase in usage during the course. The proportion of participants reporting that they took time in their classes to engage in career education activities rose from 47% to 62% (item 3). Also, the proportion of participants who reported that they felt comfortable doing career education activities rose from 59% on the pre-administration to 76% on the post (item 16). Items 13 through 30 list specific career education activities. Over the 18 items, the average usage of these techniques rose from 54% to 62%. This indicates that the participants were using more career education techniques during the time period covered by the CES course than they were prior to the course.

CONCLUSIONS

Delivery of this career education course was an experiment both in technical aspects and course format. Technically the delivery of 16 seminar programs to 15 sites in Appalachia can be termed a success. Including the loss of one entire program due to a transmission failure, audio and video signals were termed poor or lost only 8% of the time.

Site coordinator and student evaluations of the course format lead to the following conclusions:

-- Seminars which incorporated examples of career education and were "how to do it" rather than theoretical in nature received higher ratings. Budgeting to include a balanced delivery of pretaped and discussant material would be suggested for future programming. One viable benefit of the seminar format is that as a result of formative evaluation, programming can be altered to better meet student needs. This is evidenced by higher ratings for latter programs which had been altered in format to better accommodate student needs. This change would have been impossible for pretaped programs.

-- As a result of the flexible nature of seminar content, ancillary activities sometimes failed to directly correspond to program content. However, this disparity did not have as much bearing on participant satisfaction or dissatisfaction with the labs as did the actual tasks required during the lab sessions.

-- Participants preferred laboratory sessions that involved group discussions and role play activities, in which student interaction was at a maximum. Dissatisfaction with lab activities was most apparent when the prescribed activities required individual reading and completion of an activity, allowing little time for group interaction.

-- Inconsistencies were found between site coordinators' perceptions of student satisfaction and students' evaluation of the classes. One explanation for this discrepancy may be that site coordinators were at times rating their own satisfaction level and not that of their students.

-- Participants rated the reference materials provided them as better than materials provided in other graduate courses they had taken.

-- Though the use of the CBRU and AIM/ARM information systems did not extend beyond class requirements for most students, many felt they would use them if they were available in their schools. They indicated that better descriptions of the use of the systems would be helpful.

-- Site coordinators rated the content of evaluation items as very good. The quality of presentation, student reaction and reaction of evaluation to other activities were all rated as good.

The analyses of cognitive achievement, attitude toward career education, and teaching practices lead to these conclusions:

-- Participants at each site began the course with approximately the same entry level skills and attitudes toward career education and at the end of the course significant gains had been made in both cognitive and affective areas. The gains in attitudes varied by RESA triangle and these may be due to the various triangle-wide levels of support and enthusiasm for career education. The gains in cognitive skills varied by sites and indicate that even with identical seminars and laboratory lesson plans and materials the level of skill acquisition is influenced by factors at the site.

-- Participants indicated that they were using more career education activities in their classes and that they felt more comfortable when using career education techniques after the CES course.

APPENDIX 1

SEMINAR PARTICIPANTS
CES - Grades 7-12

Dr. Rupert Evans
Bureau of Educational Research
University of Illinois

Dr. Gene Bottoms (2)
Georgia State Dept. of Education

Dr. Ron Daugherty, Associate Dir. (3)
Center for Vocational and Technical Ed.
Ohio State University

Ms. Barbara Preli (4 and 5)
Career Education Coordinator
Louisville, Ky. School System

Ms. Donna Rehbeck (4)
Classroom Teacher
Louisville, KY

Dr. Darryl Laramore, (5 and 8)
Supv. of Vocational Guidance
Montgomery Co. Board of Education
Rockville, MD

Dr. Edwin Herr (6)
Department of Counselor Ed.
Penn State University

Ms. Brenda Even (6)
Career Education Specialist
University of Arizona

Ms. Lee Cheramy (6)
Classroom Teacher
Towanda, IL

Dr. William Neal (7)
Career Education Project
Knoxville, TN

Dr. Owen Collins (7)
Career Education Project Dir.
Ky. Valley Educational
Cooperative
Hazard, KY

Mr. Gino Carlotti (7)
Career Ed. Project Director
Erie, PA

Mr. Claude Brown (8)
Education and Research Dir.
Teamster Local #688
St. Louis, MO

Ms. Pat Clifton (13)
Classroom Teacher
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Ms. Edith Smith (9)
Guidance Counselor
LaFollette, TN

Mr. Anthony Kolo (9)
Classroom Teacher
Fredonia, NY

Ms. Winifred Scott (9)
Classroom Teacher
Rainsville, AL

Ms. Anne Anglin (10)
Classroom Teacher
Huntsville, AL

Mr. James Thomas (10)
Classroom Teacher
Addison, PA

NOTE: The number beside each name indicates the seminar they participated in.

Ms. Ella Bowen (8)
Bureau of Educational Research
University of Illinois

Ms. Constance Shorter (11 and 12)
Department of Education
University of Illinois

Ms. Betty Bowling, Coordinator (11)
Career Education Component
Appalachian Education Satellite
Project
University of Kentucky

Dr. Emanuel Mason (11)
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University of Kentucky

Mr. Tom Walsh (12)
U. S. Chamber of Commerce

Dr. James McComas, Dean (12)
College of Education
University of Tennessee

Mr. Joel Smith (13)
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Classroom Teacher
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Mr. Dwight Campbell (14)
Classroom Teacher
Rose Hill, VA

Ms. Betty Simerly (14)
Classroom Teacher
Piney Flats, TN

Ms. Marjorie McLean (15)
Classroom Teacher
Erie, PA

Mr. James Sweet (15)
Guidance Counselor
Gowanda, NY

Mr. Bruce Eymer (15)
Guidance Counselor
Bradford, PA

Dr. Garth Mangum (16)
University of Utah
and Olympus Publishing Co.

Dr. Sar Levitan (16)
Center for Manpower Policy
Studies
Washington, D. C.

Dr. Kenneth Hoyt, Director (16)
U. S. Office of Career Ed.
Washington, D. C.

APPENDIX 2

CES - LABORATORY ACTIVITIES***

	Activities	To Be Turned In:
Week 1	1. Participate in poll (p. 1.12) 2. "Life Ropes" activity (p. 1.13) *3. Laramore article (p. 1.21) 4. "Brainstorming" activity (p. 1.31) *5. Pre-program: pp. 11-25 in CE: WHAT IT IS AND HOW TO DO IT (p. 1.11) - develop summary statements (p. 1.32) *6. Follow-up: read pp. 1-9 from IN-SERVICE TRAINING GUIDE (p. 1.10)	1. Responses to poll (to site monitor to teletype to RCC) 2. Summary statement from each group (to site monitor to mail to RCC)
Week 2	1. Small group sessions on work/education (pp. 2.02-2.29) *2. Follow-up: pp. 9-27 in IN-SERVICE TRAINING GUIDE (p. 2.00) **3. Pre-program: pp. 27-34 in MY CAREER GUIDEBOOK (p. 2.01) *4. Read class project description (pp. 2.30-2.44)	1. Multiple choice questions from Week 1 (in student's folder)
Week 3	1. Participate in poll (p. 3.04) *2. Read article by Frantz (p. 3.05) *3. Read cluster synopsis (p. 3.14) 4. Review on-site clustering information (list of addresses/job information for use in LAP) (p. 3.33) 5. Read overview, work with AIM/ARM, microfiche (p. 3.35) 6. Resource sheets (p. 3.42) *7. Follow-up: 4 questions (p. 3.49), read pages 3.53 - 3.76 *8. Pre-program: pp. 28-45 in IN-SERVICE TRAINING GUIDE (p. 3.01). Begin class project.	1. Responses to poll (to site monitor 2. List of addresses/job information (in folder, unless information is to be used in LAP, in which case it is to be included in the LAP resource file)

* Readings that can be done before class
** Suggested as an optional activity
*** Sample copies of ancillary materials are available through the Appalachian Education Satellite Project, 306 Frazee Hall, UK, Lexington, KY 40506

	Activities:	To Be Turned In:
Week 4	1. Class discussion of 4 questions from Week 3 (p. 4.02) 2. Discussion of pp. 28-45 from IN-SERVICE TRAINING GUIDE **3. Read and discuss in groups one school system's plan for CE integration (p. 4.11) **4. Follow-up: devise your own plan (p. 4.15) 5. Read about CBRU; complete search form (p. 4.29) *6. Pre-program: Chapter 4 in CE: WHAT IT IS AND HOW TO DO IT (p. 4.01)	1. Four questions from Week 3 (in student's folder) 2. CBRU search request (one search for every two students - turn in to site monitor, who will mail these to the RCC
Week 5	**1. Share implementation plans from Week 4's groups (p. 5.02) 2. In groups, devise basic format for using school personnel (p. 5.03) a. Read pp. 5.03-5.09 b. Read 5.09 - 5.11 c. Develop format (p. 5.12) d. Share with class (p. 5.12) 3. Responses to poll about the junior high student (in memo from Cathy Whitton) *4. Follow-up: pp. 86-99 in CE IN THE MIDDLE/JUNIOR HIGH SCHOOL (p. 5.01) *5. Pre-program: pp. 90-104 in CE RESOURCE GUIDE (p. 5.01)	1. Implementation plan (for student's folder) 2. Plan for using school personnel (one report from each group; reports should be turned to the site monitor and mailed to the RCC.)
Week 6	1. Group development of junior high school activity (p. 6.03) 2. Brainstorming activity: guidance activity (p. 6.04) *3. Follow-up: Chapter 4 in CE IN THE MIDDLE/JUNIOR HIGH SCHOOL (p. 6.01) *4. Pre-program: pp. 99-106 in CE IN THE MIDDLE/JUNIOR HIGH SCHOOL (p. 6.01)	

	Activities:	To Be Turned In:
Week 7	1. React to Pre-program activity (p. 7.02) *2. Read "Teaching in the World of Work" and develop hands-on activity for learning center (pp. 7.04-7.13) *3. Follow-up: read "Learning Centers" (p. 7.14) *4. Develop plan for learning center (pp. 7.14-7.20) *5. Pre-program: Chapter 5 in CE: WHAT IT IS AND HOW TO DO IT *6. Prepare questionnaire (p. 7.01) 7. Polling procedure for Seminar 8 (see memo of 9-27-74)	1. Plan for learning center (due Week 9 - either in student's folder or to be included in the LAP) 2. "Community Resources" questionnaire (due on October 22) (to be placed in student's folder) 3. Collect each student's written responses and mail to the RCC on Wednesday morning, October 16, 1974.
Week 8	1. Polling procedure for Seminar 9 pp. 8.02-8.03)	1. Each group will submit their response sheet (p. 8.02-8.03) to the site monitor. Mail these sheets to the RCC on Wednesday, October 23, 1974.
	2. General discussion regarding Seminar 8; share findings from "Community Resources Questionnaire."	2. Each student should turn in the findings from the 3 resource persons interviewed on the "Community Resources Questionnaire" (this was a pre-program assignment from Week 7). Place these in each student's folder.
Week 9	1. General discussion regarding Seminar 9. 2. Each student will share the plan for his or her learning center. (NOTE: You may include this written plan in your LAP if appropriate; if not, turn it in to the site monitor to place in your folder.) 3. Small-group activity: "Self-Made Persons" (activity dealing with pre-program readings, "Conviviality and Fate Control" and "Tell Me Teacher.") pp. 9.01-9.02. 4. Any remaining time can be used in research and development of class project.	1. OPTIONAL: Plan for your learning center (see Activity 2).

	Activities:	To Be Turned In:
Week 10	1. General class discussion regarding Seminar 10. 2. On-site research: students browse through 2 search printouts: "Career Education In-Service Training" and Learning Activity Packages. BEFORE THE PROGRAM - read questions pertaining to next week's seminar.	
Week 11	1. General discussion regarding Seminar 11. 2. Small group activity involving pre-program assignment on stereotypes: a. Discuss "Collecting Data on Stereotypes." b. Discuss the pre-program reading assignment: "The Problem with Stereotypes." 3. Small group role-play activity on "Stereotyping" --Manila envelope entitled "Stereotyping Activity" 4. Whole group activity: "Stereotyping: Discussion Topics" PRE-PROGRAM: Read "Stability Versus Change" on pages 11.07-11.14 of this packet. Then work through the accompanying activity. You might want to bring this reading to class next week to aid you in the class discussion. The related activity, "Pose/Propose," is due Week 12, November 19, 1974, to be turned in to the site monitor and placed in your folder.	1. Collect assignment sheets for "Collecting Data on Stereotypes." Place in student's folder.

	Activities:	To Be Turned In:
Week 12	1. General discussion regarding Seminar 12. 2. Small group activity: discuss the pre-program assignments regarding Educational Change: a. Article entitled, "Stability Versus Change" b. Discuss "Pose/Propose" activity 3. Small group activity dealing with educational change: "Permanence" --Manila envelope entitled "Educational Change": Part I, "Permanence" 4. Small group activity dealing with educational change: "Changed Objects 5. Discuss YELLOW PAGES OF THE WORKING WORLD - comments, and general discussion	1. The page completed for YELLOW PAGES OF THE WORKING WORLD, assigned in Week 8. After duplication and insertion in the Yellow Pages Resource Book at your site, this assignment will be placed in your folder.
Week 13	1. General Discussion regarding Seminar 13. 2. Small group activity: React to the "Questions for Discussion" pertaining to the pre-program reading, "Role of Students and Community in Planned Curriculum Change." 3. Whole group activity dealing with educational change, "Process" 4. Class should identify which students will present class projects next week and who will present projects the following week.	

	Activities:	To Be Turned In:
Week 14	1. Discuss the class projects presented in Seminar 14. 2. Polling procedure for Seminar 14. 3. Students designated last week will present their class projects.	1. Collect response sheets completed in Activity 2. Mail these to the RCC on Wednesday, December 4, 1974.
Week 15	1. Discuss the class projects presented in Seminar 15. 2. The second group of class participants will present their class projects. 3. Polling procedure for Seminar 16.	1. Collect the participants' questions. Mail these to the RCC on Wednesday, December 11, 1974.
Week 16	1. Group A will fill out the Class Rating Form. 2. All students will fill out the following: a. Teaching Practices Inventory b. Posttest c. Teacher Attitudes Toward Career Education d. Information Systems Questionnaire 3. Site Monitors only - complete the Site Coordinator's Checklist for Week 16 and the Summative Report Form.	1. Class projects -- mail these to the RCC (make sure students include a large self-addressed and stamped envelope). 2. Mail students' folders to the RCC. Make sure each student's checklist is stapled to his or her folder. 3. Collect the following and mail to the RCC: a. Class Rating Forms b. Teaching Practices Inventory forms c. Posttests d. Teacher Attitudes Toward Career Education forms e. Information Systems Questionnaires 4. Mail the two forms that you as site coordinator completed: a. Site Coordinator's Checklist b. Summative Report Form

APPENDIX 3

Evaluation Instruments

Item	Instrument
A	Background Questionnaire
B	Teacher Attitudes Toward Career Education
C	Teaching Practices Inventory
D	Class Rating Form
E	Feedback Questionnaire
F	Information Systems Questionnaire
G	Site Coordinator's Checklist
H	Summative Comments Form

ITEM A

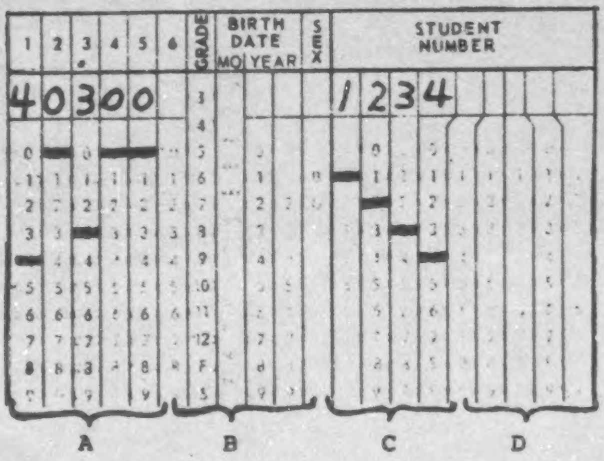
Appalachian Education Satellite Project
Resource Coordinating Center
Evaluation Component
306 Frazee Hall, University of Kentucky
Lexington, Kentucky 40506

BACKGROUND QUESTIONNAIRE: CAREER EDUCATION (BQCE)

The Background Questionnaire allows us to find out what types of students are enrolling in the Career Education course. The information obtained is potentially very helpful in conducting the course and in evaluating its usefulness.

Please answer all questions on the form unless a question does not apply or you cannot remember the information called for.

Write your replies on the Op-Scan sheet provided. Turn the Op-Scan sheet so that the box that says "STUDENT NUMBER" is on your lower right. Fill out the box labeled "1 2 3 4 5 6" and the box labeled "STUDENT NUMBER" as indicated in the diagram below.



Instructions:

A copy this just as it appears

B leave blank

C fill in YOUR 4 digit student number

D leave blank

In the upper left-hand corner of the answer sheet write in the name of the school and city where you are employed in the spaces provided. After the word "Test" write the short name of this questionnaire (BQCE). In the upper right-hand corner of the answer sheet write in your name in the spaces provided and mark the corresponding letters beneath your name.

Use a soft-lead (#2) pencil to mark the answer sheet -- do not use a pen or ball-point. Be sure your mark fills the entire block of the response you wish to make. Your mark should be heavy, black and stay within the lines so that the machine can read your replies. If you change your mind or make a mistake, be sure that you erase completely. Do not make any other marks on the answer sheet.

Turn the sheet so that the words "STANDARD ANSWER SHEET-C" are on your lower left. Begin answering at number 1. Be careful that the item number on the inventory corresponds to the number on the Op-Scan sheet that you are marking.

1. Sex

    1. Male
    2. Female

2. Description of community in which you teach (or work in some other area of education)

    1. Rural
    2. Urban

3. Age in years as of last birthday

    1. 30 or under
    2. 31-40
    3. 41-50
    4. 51-60
    5. 60 or over

4. Score on GRE Verbal (leave blank if you have not taken it or do not remember score)

    1. 400 or below
    2. 401-500
    3. 501-600
    4. 601-700
    5. 700 or above

5. Score on GRE Quantitative (leave blank if you have not taken it or do not remember score)

    1. 400 or below
    2. 401-500
    3. 501-600
    4. 601-700
    5. 700 or above

6. Position during 1974-75 academic year

    1. Teacher
    2. Counselor
    3. Principal
    4. School Administrative Position (other than principal)
    5. Other

7. Grade level of present position (choose only one)

    1. K-3
    2. 4-6
    3. 7-9
    4. 10-12
    5. Other or not listed in choices 1-4 above

8. Work experience in teaching

   1. 5 years or less
   2. 6-10 years
   3. 11-15 years
   4. 16-20 years
   5. 21 years or more

9. Experience in teaching Career Education

   1. 2 years or less
   2. 3-4 years
   3. 5-6 years
   4. 7-8 years
   5. 9 or more years

10. Are you taking this course for credit?

   1. Yes
   2. No

11. If you have registered for credit where would you like to obtain credit? (leave blank if not registered for credit)

   1. University of Kentucky
   2. Other College or University

12. What was your undergraduate grade-point-average? (convert four-point scale where A = 4)

   1. less than 1.99
   2. 2.00-2.49
   3. 2.50-2.99
   4. 3.00-3.49
   5. 3.50-4.00

13. What was your graduate grade-point-average? (convert to four-point scale where A = 4)

   1. less than 2.66
   2. 2.67-2.99
   3. 3.00-3.33
   4. 3.34-3.66
   5. 3.67-4.00

14. Last degree completed

   1. High School Diploma
   2. Baccalaureate
   3. Master's
   4. Specialist
   5. Doctorate

15. Number of undergraduate career education courses completed

1. none
2. 1
3. 2
4. 3
5. 4 or more

16. Number of graduate career education courses completed

1. none
2. 1
3. 2
4. 3
5. 4 or more

17. If you are currently enrolled in a college degree program which of the following degrees are you pursuing?

1. Baccalaureate
2. Master's
3. Specialist
4. Doctorate
5. Not enrolled

ITEM B

Appalachian Education Satellite Project
Resource Coordinating Center
Evaluation Component
306 Frazee Hall, University of Kentucky
Lexington, Kentucky 40506

TEACHER ATTITUDES TOWARD CAREER EDUCATION (TACE)

Instructions

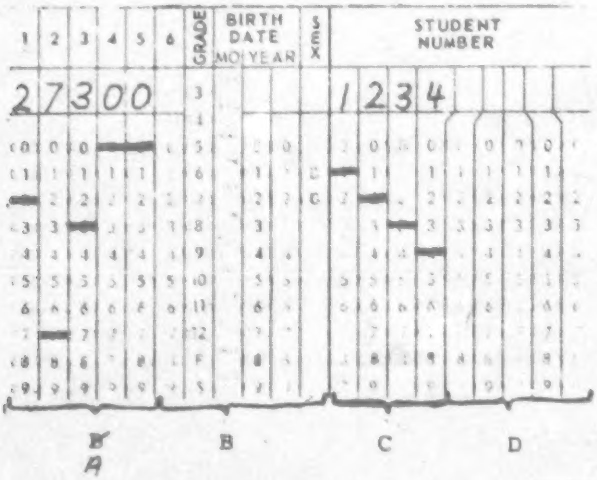
This questionnaire is concerned with your attitudes toward Career Education. Please answer as truthfully as possible. Your answers do not affect your grade in the course, but help us to assess the effectiveness of the course and suggest improvements.

Indicate your answers to the items by placing a heavy vertical line in the column beside the appropriate item number on the separate answer sheet. Be sure the item number on the answer sheet matches the item number on the test.

Mark: 5) if you strongly agree with the statement
4) if you moderately agree
3) if you feel neutral
2) if you moderately disagree
1) if you strongly disagree

Please answer as truthfully as possible. Your answers do not affect your grade in the course, but help us to assess the affectiveness of the course and suggest improvements.

Write your replies on the Op-Scan sheet provided. Turn the Op-Scan sheet so that the box that says "STUDENT NUMBER" is on your lower right. Fill out the box labeled "1 2 3 4 5 6" and the box labeled "STUDENT NUMBER" as indicated in the diagram below.



A copy this just as it appears

B leave blank

C fill in YOUR 4 digit student number

D leave blank

Use a soft-lead (#2) pencil to mark the answer sheet -- do not use a pen or ball-point. Be sure your mark fills the entire block of the response you wish to make. Your mark should be heavy, black and stay within the lines so that the machine can read your replies. If you change your mind or make a mistake, be sure that you erase completely. Do not make any other marks on the answer sheet.

Turn the sheet so that the words "STANDARD ANSWER SHEET-C" are on your lower left. Begin answering at number 1. Be careful that item number on the inventory corresponds to the number on the Op-Scan sheet that you are marking.

1. The school program should include career development.
2. Career education should be a continuous, life-long process.
3. Information about careers should be integrated with school curriculum.
4. The community is an excellect resource to use in a career education program.
5. I am willing to take the time to find community resources for a career education program.
6. I consider what people do in their occupations when I organize my teaching plans.
7. A commitment from the school administration is necessary for a successful career education program.
8. Schools have the responsibility to help students develop career objectives.
9. Students should have experience in the world of work before leaving school.
10. The school curriculum should be related to the career goals of the student.
11. Parents should be aware of career education experiences occuring in the school system.
12. It is important that career education activities be incorporated and emphasized in the junior and senior high school.
13. Children in elementary school are too young to start thinking about career possibilities.

14. The school guidance personnel should have responsibility for career education.

15. The classroom teacher should be responsible for career education.

16. Career education is just another fad that will soon be forgotten.

17. Career education will help students make realistic career choices.

18. Students should be permitted to miss regular classes in order to go on field trips.

19. It is important for children to be taught a work ethic.

20. I feel that career education should be included in the curriculum experiences of each child.

21. A commitment from the classroom teacher is needed for a successful career education program.

22. I am aware of what my colleagues are doing in the area of career education.

23. I help my students develop occupational awareness through the use of film strips, field trips, and speakers.

24. I have discussed at length career education procedures with my colleagues.

25. Subject matter lesson plans should include career information.

26. I consider career exploration activities when devising my lesson plans.

27. Public school teachers should know the community employment needs.

28. Enough emphasis is already placed on career education in the schools.

29. Career education in junior high schools is futile since a person will change his mind several times before picking a lifetime career.

30. Different academic departments should work together in devising a career education program for their school.

31. Career education is best taught in the vocational arts and the home economic departments of junior and senior high schools.

32. Students have a satisfactory number of career options open to them.

ITEM C

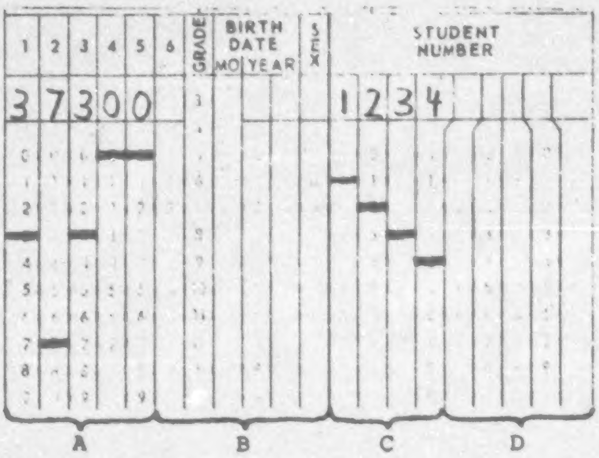
Appalachian Education Satellite Project
Resource Coordinating Center
Evaluation Component
306 Frazee Hall, University of Kentucky
Lexington, Kentucky 40506

TEACHING PRACTICES INVENTORY: CAREER EDUCATION

The questions below concern what you did in your school last year. Please answer the questions to the best of your ability. No good or bad evaluation of your activities will be made. This information is helpful to us in tailoring the course to your needs and evaluating the success of the course.

Attempt to answer all questions. However feel free to leave blank any questions that do not apply to your activities last year.

Write your replies on the Op-Scan sheet provided. Turn the Op-Scan sheet so that the box that says "STUDENT NUMBER" is on your lower right. Fill out the box labeled "1 2 3 4 5 6" and the box labeled "STUDENT NUMBER" as indicated in the diagram below.



Instructions:

A - copy this just as it appears

B - leave blank

C - fill in your 4 digit student number

D - leave blank

Use a soft-lead (#2) pencil to mark the answer sheet -- do not use a pen or ball-point. Be sure your mark fills the entire block of the response you wish to make. Your mark should be heavy, blank and stay within the lines so that the machine can read your replies. If you change your mind or make a mistake, be sure that you erase completely. Do not make any other marks on the answer sheet.

Turn the sheet so that the words "STANDARD ANSWER SHEET-C" are on your lower left. Begin answering at number 1. Be careful that the item number on the inventory corresponds to the number on the Op-Scan sheet that you are marking.

With regard to last year (1973-74 school year)

1. Was there a functioning Career Education program in your school? (1) Yes (2) No
2. Was there a Career Education program in your school and was your class involved in the program? (1) Yes (2) No
3. Was time taken in your class to do Career Education activities? (1) Yes (2) No
4. No time was taken in classroom for specific Career Education activities, however, Career Education was incorporated with other parts of curriculum. (1) Yes (2) No

The person(s) who had the most responsibility in devising a Career Education program in your school was (select as many as apply)

5. Guidance Counselor (1) Yes (2) No
6. Teachers (1) Yes (2) No
7. Principal (1) Yes (2) No
8. Did your school principal discuss the development of Career Education programs with you? (1) Yes (2) No
9. Did you find the concept that individuals differ in their interests, abilities, and values was important to Career Education? (1) Yes (2) No
10. Did you find that hobbies were a good source of Career Education information? (1) Yes (2) No
11. Did you feel comfortable doing Career Education projects in the classroom? (1) Yes (2) No
12. The best outside source for Career Education materials is
    - (1) Books and pamphlets
    - (2) Career Education kits
    - (3) Films and filmstrips
    - (4) Records and tapes
    - (5) Sources other than those above

Which of the following techniques did you use last year? (select as many as apply)

13. Explain to students that each person sees a job differently (1) Yes (2) No
14. Have students pick an occupation and tell what it is and then compare answers (1) Yes (2) No
15. Use persons employed in the community as speakers (1) Yes (2) No

16. Introduce students to various types of jobs (1) Yes (2) No

17. Ask students what they would like to do when they grow up (1) Yes (2) No

18. Ask students what their fathers do for a living (1) Yes (2) No

19. Help students to see themselves as worthwhile individuals (1) Yes (2) No

20. Role playing of various jobs (1) Yes (2) No

21. Outside speakers explaining their jobs (1) Yes (2) No

22. Have children's parents serve as resources for information about careers (1) Yes (2) No

23. Have students make a chart of your community needs and the occupations that fulfill those needs (1) Yes (2) No

24. Have students write essays on what life would be like without certain jobs (1) Yes (2) No

25. Have students make a list of all jobs they can think of (1) Yes (2) No

26. Explain educational requirements of jobs (1) Yes (2) No

27. Have students explore the types of educational skills needed for jobs in which they are interested (1) Yes (2) No

28. Explain what jobs use the educational skills you are teaching (1) Yes (2) No

29. Have students use educational skills in simulated jobs (1) Yes (2) No

30. Techniques other than those above (1) Yes (2) No

In order to gain information about Career Education which of the following did you rely on? (select all that apply)

31. Regional Career Education center (1) Yes (2) No

32. School system Career Education center (1) Yes (2) No

33. School Career Education center (1) Yes (2) No

34. Guidance counselor (1) Yes (2) No

35. School principal (1) Yes (2) No

36. Local industries (1) Yes (2) No

37. Local library (1) Yes (2) No

38. Professional books and journals (1) Yes (2) No

39. College library (1) Yes (2) No

40. College professors (1) Yes (2) No

41. Information retrieval systems (1) Yes (2) No

42. Sources of information other than those above (1) Yes (2) No

43. Did you use movies and filmstrips concerning Career Education in your classroom? (1) Yes (2) No

44. Do you know where to obtain movies and filmstrips concerning Career Education? (1) Yes (2) No

45. It appeared that the students' parents wanted Career Education taught in this community. (1) Yes (2) No

46. Did your school system have in-service training sessions for Career Education techniques? (1) Yes (2) No

47. Did you find standardized tests useful to your teaching procedures? (1) Yes (2) No

Have you taught in (select as many as apply)

48. Team teaching situations (1) Yes (2) No

49. Open classrooms (1) Yes (2) No

50. Traditional classrooms (1) Yes (2) No

51. Resource center (1) Yes (2) No

52. Individual instruction situations (1) Yes (2) No

53. Homogeneous classrooms (1) Yes (2) No

54. Other teaching situations not covered above (1) Yes (2) No

55. During the classroom work periods the noise level in your room was

(1) completely quiet
(2) whisper noise caused by students working together
(3) fairly great amount of noise caused by enthusiasm and group involvement
(4) fairly high since many of the students were not interested in learning

56. Were parents very involved in your school programs last year? (1) Yes (2) No

57. Students in your school, on the whole

(1) were interested and enthusiastic about school
(2) were mildly interested
(3) did not appear interested, but did their school work
(4) seemed to be only passing time of day
(5) disliked school

In which of the following areas did you feel that your school needed additional staff members?

75. Administrative (1) Yes (2) No

76. Supervisory (1) Yes (2) No

77. Counseling and guidance (1) Yes (2) No

78. Classroom teachers (1) Yes (2) No

79. Teachers aids (1) Yes (2) No

80. Medical (1) Yes (2) No

81. About how many books did your school have in its library?

(1) less than 1000
(2) 1001 - 2000
(3) 2001 - 3000
(4) 3001 - 5000
(5) over 5000

82. Did the guidance counselor supply you with materials which helped to strengthen your instructional program? (1) Yes (2) No

83. Did the State Department of Instruction have available materials which you found useful? (1) Yes (2) No

84. Are you familiar with the ERIC microfiche system? (1) Yes (2) No

85. Do you know the location of an ERIC Reader in your vicinity? (1) Yes (2) No

86. Have you had any input into the curriculum which you teach? (1) Yes (2) No

87. Did your principal or supervisors encourage you to experiment with different instructional styles or techniques? (1) Yes (2) No

88. Did students have any input to your curriculum development? (1) Yes (2) No

89. Did you take part in curriculum development committees? (1) Yes (2) No

When faced with an instructional problem, what did you do? (select as many as apply)

90. Sought the help of guidance counselor (1) Yes (2) No

91. Sought the help of fellow teacher (1) Yes (2) No

92. Sought the help of principal (1) Yes (2) No

93. Sought the help of area supervisor (1) Yes (2) No

94. Solved the problem by yourself (1) Yes (2) No

95. Did you see a need for a curriculum revision in your school system? (1) Yes (2) No

96. Did you see a need for a revision of your curriculum in your school system and find that you were not able to help in its revision? (1) Yes (2) No

97. Did you see a need for a revision of your curriculum in your school system and find that you were able to help in its revision? (1) Yes (2) No

98. Did you feel that you had a sufficient amount of time during the day to prepare your lesson? (1) Yes (2) No

Through which of the following activities did you share your teaching ideas with your fellow teachers?

99. Informal discussions (1) Yes (2) No

100. As a leader of an in-service teacher training program (1) Yes (2) No

101. As a participant in an in-service teacher training program (1) Yes (2) No

102. As a coordinator of a curriculum development project (1) Yes (2) No

103. As a participant in a curriculum development project (1) Yes (2) No

104. Other activities not listed above (1) Yes (2) No

If you selected one or more activities in items 99-104, select the area or areas towards which those activities were aimed.

105. Career Education (1) Yes (2) No

106. Reading (1) Yes (2) No

107. Mathematics (1) Yes (2) No

108. Language Skills (1) Yes (2) No

109. Social Studies (1) Yes (2) No

110. Natural Sciences (1) Yes (2) No

111. Industrial Arts / Home Economics (1) Yes (2) No

112. Other areas (1) Yes (2) No

Were there factors that inhibited you from carrying out some project or curriculum revision? If so, check as many below as apply.

113. Lack of self-confidence (1) Yes (2) No

114. Lack of knowledge and skills (1) Yes (2) No

115. Lack of administrative support (1) Yes (2) No

116. Lack of money (1) Yes (2) No

117. Lack of resources (1) Yes (2) No

118. Lack of fellow teacher support (1) Yes (2) No

119. Lack of time (1) Yes (2) No

120. Other factors (1) Yes (2) No

Were there factors that encouraged you to initiate and carry through a project or curriculum revision? If so, check as many as apply.

121. Confidence in self (1) Yes (2) No

122. Sufficient knowledge and skills (1) Yes (2) No

123. Adequate administrative support (1) Yes (2) No

124. Adequate money (1) Yes (2) No

125. Adequate resources (1) Yes (2) No

126. Adequate fellow teacher support (1) Yes (2) No

127. Sufficient time (1) Yes (2) No

128. Other factors (1) Yes (2) No

129. Was your school departmentalized? (1) Yes (2) No

Did you plan career education activities on

130. An individual level (your classroom only) (1) Yes (2) No

131. An intra-departmental level (1) Yes (2) No

132. A school wide level (1) Yes (2) No

133. Was there cooperation within your department in curriculum development or modification activities? (1) Yes (2) No

134. Did your department coordinator encourage curriculum development or modification activities? (1) Yes (2) No

ITEM D

Appalachian Education Satellite Project
Resource Coordinating Center
Evaluation Component
306 Frazee Hall, University of Kentucky
Lexington, Kentucky 40506

CLASS RATING FORM

Instructions

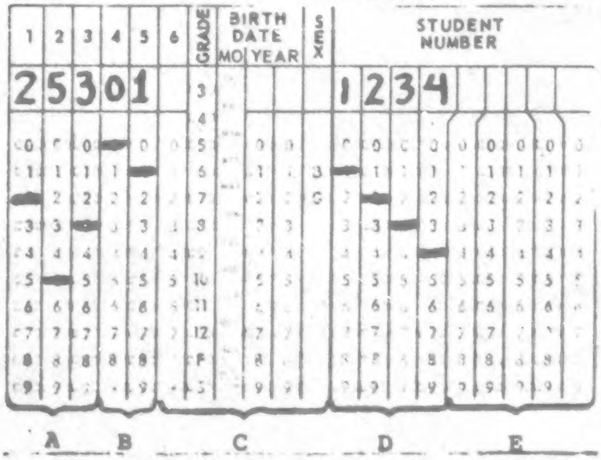
This questionnaire is concerned with your reactions to the seminar and laboratory activities. Part 1 is to be filled out after the seminar and Part 2 is to be filled out at the end of the class meeting.

Indicate your answers to the items by placing a heavy vertical line in the column beside the appropriate item number on the separate answer sheet. Be sure the item number on the answer sheet matches the item number on the test.

Mark: 5) if you strongly agree with the statement
4) if you moderately agree
3) if you feel neutral
2) if you moderately disagree
1) if you strongly disagree

Please answer as truthfully as possible. Your answers do not affect your grade in the course, but help us to assess the effectiveness of the course and suggest improvements.

Mark your answers on the Op-Scan sheet provided. Turn the Op-Scan sheet so that the box that says "STUDENT NUMBER" is on your lower right. Fill out the box labeled "1 2 3 4 5 6" and the box labeled "STUDENT NUMBER" as indicated in the diagram below.



A copy this just as it appears

B fill in the 2 digit seminar number. The site monitor can tell you the correct seminar number for today.

C leave blank

D fill in YOUR 4 digit student number

E leave blank

Use a soft-lead (#2) pencil to mark the answer sheet -- do not use a pen or ball-point. Be sure your mark fills the entire block of the response you wish to make. Your mark should be heavy, black and stay within the lines so that the machine can read your replies. If you change your mind or make a mistake, be sure that you erase completely. Do not make any other marks on the answer sheet.

Turn the sheet so that the words "STANDARD ANSWER SHEET-C" are on your lower left. Begin answering at number 1. Be careful that the item number on the inventory corresponds to the number on the Op-Scan sheet that you are marking.

PART 1

Fill Out After The Seminar

1. The seminar host clearly identified what the unit would cover.

2. Adequate transitions between ideas were provided.

3. What I learned during the seminar will be useful to me as a classroom teacher.

4. The seminar presenters did not provide adequate responses to the questions generated by course participants.

5. The filmed sections of today's broadcast were helpful in understanding the content of the seminar.

6. The seminar presenters were obviously quite expert in the content areas discussed.

7. There was adequate time allowed for the preparation and transmission of questions for the seminar presenters.

8. The seminar discussion was interesting.

9. The seminar presentation was not well organized.

10. I feel that the seminar presenters were not really aware of actual classroom and community problems.

11. The seminar dealt with the topics I wanted to hear about.

PART 2

Fill Out After You Are Finished With The Laboratory Activities

12. The laboratory activities were logically organized.

13. Too much material was included in the laboratory session.

14. Adequate explanation accompanied the laboratory activities.

15. The purpose of the laboratory activities was not clear to me.

16. It was easy to gain access to the materials needed to perform the laboratory activities.

17. The laboratory activities were interesting.

18. The interaction with other class members during the laboratory session was helpful.

19. I was able to successfully complete the laboratory activities.

20. What I learned during the laboratory activities will not be useful to me as a classroom teacher.

21. The laboratory activities were more useful than the televised seminar in demonstrating the practical use of concepts and procedures.

22. The laboratory activities helped me to understand the procedures presented in the televised seminar better.

ITEM E

Appalachian Education Satellite Project
Resource Coordinating Center
Evaluation Component
306 Frazee Hall, University of Kentucky
Lexington, Kentucky 40506

FEEDBACK QUESTIONNAIRE (FQ)

Student Number ______________________ Date __________________

Instructions

Rate the following nine instructional activities according to the quantity of useful information you received from each. Make your standard of reference an average education course.

1. Mark a 1 (unacceptable) if you received a lot less information from the activity than you usually obtain from similar activities in a teacher preparation course.
2. Mark a 2 (poor) if you received somewhat less.
3. Mark a 3 (average) if you received about the same amount from the activity.
4. Mark a 4 (good) if you received a little more from the activity than you usually obtain from similar activities in a graduate education course.
5. Mark a 5 (outstanding) if you received a lot more from the activity than from a comparable activity in a graduate education course.

Please answer as truthfully as possible. Your answers do not affect your grade in the course, but help us to assess the effectiveness of the course and suggest improvements.

1. Pre-Seminar Preparation compared to work usually assigned in other graduate classes prior to covering material in class.

unacceptable outstanding

| 1 | 2 | 3 | 4 | 5 |

Comments:

2. Televised, Interactive Seminars compared to other graduate seminars and class discussions.

unacceptable outstanding

1 2 3 4 5

Comments:

3. The Film Segments used during the interactive seminar as sources of stimulation for the seminar discussions.

unacceptable outstanding

1 2 3 4 5

Comments:

4. The Seminar Host and Guests as competent and informative discussants of the seminar topic.

unacceptable outstanding

1 2 3 4 5

Comments:

5. Laboratory Activities compared to laboratory activities associated with other graduate courses.

unacceptable outstanding

1 2 3 4 5

6. Follow-up Activities and homework assignments compared to similar activities in other graduate courses.

unacceptable outstanding

1 2 3 4 5

Comments:

7. On-site Reference Materials compared to materials placed on reserve by other graduate instructors.

unacceptable outstanding

1 2 3 4 5

Comments:

8. Retrieval Systems Materials compared to materials instructors in other graduate courses locate to help specific individuals.

unacceptable outstanding

1 2 3 4 5

Comments:

9. The Site Monitor as an effective course leader.

unacceptable outstanding

1 2 3 4 5

Comments:

ITEM F

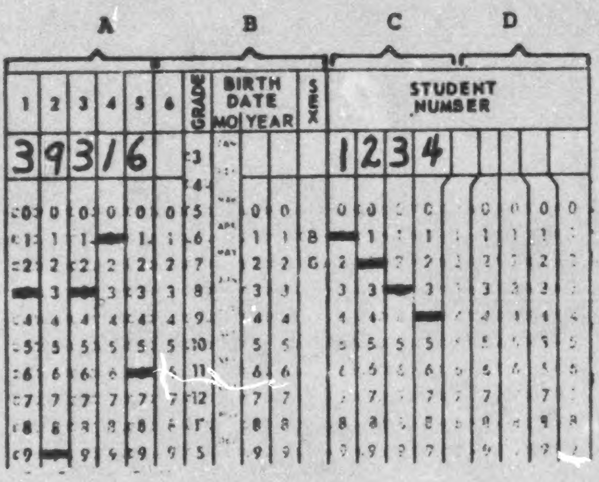
Appalachian Education Satellite Project
Resource Coordinating Center
Evaluation Component
306 Frazee Hall, University of Kentucky
Lexington, Kentucky 40506

INFORMATION SYSTEMS QUESTIONNAIRE

Instructions

This questionnaire has two parts. Part 1 is concerned with your attitudes toward the information systems presented in class. Part 11 is concerned with the degree to which you used the information systems to assist you in developing course materials for the classes you teach. Please answer as truthfully as possible. Your answers do not affect your grade in the course, but help us to assess the effectiveness of these systems and suggest improvements.

Write your replies on the Op-Scan sheet provided. Turn the Op-Scan sheet so that the box that says "STUDENT NUMBER" is on your lower right. Fill out the box labeled "1 2 3 4 5" and the box labeled "STUDENT NUMBER" as indicated in the diagram below.



A copy this just as it appears

B leave blank

C fill in YOUR 4 digit student number

D leave blank

Use a soft-lead (#2) pencil to mark the answer sheet -- do not use a pen or ball-point. Be sure your mark fills the entire block of the response you wish to make. Your mark should be heavy, black and stay within the lines so that the Op-Scan machine can read your replies. If you change your mind or make a mistake, be sure that you erase completely. Do not make any other marks on the answer sheet.

Turn the sheet so that the words "STANDARD ANSWER SHEET-C" are on your lower left. Begin answering at number 1. Indicate your answers to the items by placing a heavy vertical line in the column beside the appropriate item number on the answer sheet. Be careful that the item number on the questionnaire corresponds to the number on the Op-Scan sheet that you are marking.

PART 1

Mark: 5) if you strongly agree with the statement
4) if you moderately agree
3) if you feel neutral
2) if you moderately disagree
1) if you strongly disagree

1. The CBRU Reference Manual and the example CBRU search adequately explained how to use and interpret this information system.

2. The AIM/ARM* reference materials adequately explained how to use and interpret this information system.

3. The search request form for the CBRU information system was clear in its format.

4. It took too long to receive information from the CBRU system.

5. The CBRU information search provided me with the information I wanted.

6. The AIM/ARM information searches on the reference shelf provided me with the information I wanted.

7. The CBRU information system was easy to use.

8. The information received from the CBRU information system was easy to interpret.

9. The information contained in the AIM/ARM information searches was easy to interpret.

10. The CBRU information system is well worth the time and effort it took to use it.

11. If the CBRU information system were available to me, in my school system, I would use it to aid me in my teaching.

12. If the AIM/ARM information system were available to me, in my school system, I would use it to aid me in my teaching.

13. I would recommend the CBRU information system to my fellow teachers.

14. I would recommend the AIM/ARM information system to my fellow teachers.

*Since the AIM/ARM system is closely related to the ERIC files, RIE and CIJE, please base your ratings on your understanding of all of these related information systems.

PART 11

Section A

15. Indicate how many times during this semester you requested searches using the CBRU information system? Do NOT count the search made as a requirement for this course.

    1. Never, I only did the class assignment.
    2. One time
    3. Two times
    4. Three times
    5. Four, or more times

16. Indicate how many times during this semester you requested searches using the AIM/ARM information system?

    1. Never
    2. One time
    3. Two times
    4. Three times
    5. Four, or more times

Section B

If you did request a search using the CBRU information system, in addition to the one search that was a class assignment, please skip to Section C. Otherwise answer yes or no to Questions 17-19 below concerning your reasons for not requesting additional CBRU searches.

17. I did not need to run additional CBRU searches as the in-class search provided me with all the information I required to develop my career education materials.

    1. Yes 2. No

18. I did not have the time to carefully study the manual so I could run a search.

    1. Yes 2. No

19. The directions and procedures to request a search were confusing and made it difficult to use the system.

    1. Yes 2. No

Section C

If you did not request a search using the AIM/ARM information system, answer yes or no to items 20-24 below. If you did request any AIM/ARM searches skip to Section D.

20. I did not need to run an AIM/ARM search because the searches on the reference shelf fulfilled my needs for career education resources.

    1. Yes 2. No

21. I did not have the time to carefully study the manual so I could run a search.

    1. Yes 2. No

22. The directions and procedures to request a search were confusing and made it difficult to use the system.

    1. Yes 2. No

23. I did not use the AIM/ARM information system due to the inconvenience of looking up references that were not contained in the microfiche files.

    1. Yes 2. No

24. I did not use the AIM/ARM information system because I do not like to read microfiche cards from a reader.

    1. Yes 2. No

Section D

Answer yes to the following suggested improvements in the information system procedures if you think such improvements would be of benefit. Answer no if you do not feel that the suggestion would be of substantial benefit.

25. Have hard copy, rather than microfiche, in the AIM/ARM files.

    1. Yes 2. No

26. Provide manuals that are easier to understand.

1. Yes 2. No

27. Provide simpler forms to use to request searches.

1. Yes 2. No

28. Give the site monitor more training in the information system so that he/she is a more effective instructor.

1. Yes 2. No

29. Have the site monitor explain in detail the materials that are available on the reference shelf.

1. Yes 2. No

30. Develop a video program that would explain the use of the information systems.

1. Yes 2. No

Section E

Would you have utilized the information systems more if the materials recommended in the searches were readily available

31. At the AESP classroom site?

1. Yes 2. No

32. At your school?

1. Yes 2. No

33. At some central local location (e.g., school district headquarters, local college, etc.)?

1. Yes 2. No

34. Select one of the following alternatives that best describe your feelings about the relative merits of the information systems.

1. CBRU is generally more useful than AIM/ARM.

2. AIM/ARM is generally more useful than CBRU.

3. Neither system is very useful.

4. Both systems are equally very useful.

5. One system is useful for some applications, while the second is more useful for other applications.

ITEM G

Appalachian Education Satellite Project
Resource Coordinating Center
306 Frazee Hall, University of Kentucky
Lexington, Knetucky 40506

SITE COORDINATOR'S CHECKLIST

Seminar # ________ Site # ________ Date ______________

Person Completing Form ______________________________

Check each piece of equipment with which you had trouble during the past week.

___ Parabollic Antenna
___ Helical Antenna
___ Interconnecting Cables
___ Digital Coordinator
___ 2.6 GHz Receiver
___ TV Monitor/Receiver
___ Teletype
___ No equipment trouble

The following items refer to today's class (check all that apply)

Audio Signal:

___ None
___ Poor
___ Major Distortion
___ Minor Distortion
___ Excellent

Video Signal:

___ None
___ Poor
___ Major Distortion
___ Minor Distortion
___ Excellent

___ Broadcast delay for seminar
___ Poor weather caused low attendance
___ Poor weather caused cancellation or postponement of class
___ Missing lab materials
___ Missing evaluation materials

Student satisfaction with seminar:

___ High
___ Moderate
___ Low

Student satisfaction with lab activities:

___ High
___ Moderate
___ Low

ITEM H

FALL CAREER EDUCATION

SUMMATIVE COMMENTS FORM

Site Coordinator ______________________________ Site __________

In order to evaluate the overall effectiveness of the course and to provide information for future course revision, please summarize your overall impressions of the course. Try to be as specific as possible in stating what was liked about the course, what was disliked, and why.

1) Were there any specific programs that were liked or not and why?

2) What suggestions for course improvement do you have? Please be as specific as possible.

3) Would you recommend this course to your peers, why or why not.

4) What specific comments do the students have concerning the course.

5) Include any other information which you feel would be useful in evaluating the overall effectiveness of the course. Please try to be as specific as possible. Please use additional sheets as needed.

Please rate the overall quality of the following areas:

Television Seminars	1 (Excellent)	2	3	4	5	6	7 (Unacceptable)
a) Content							
b) Quality of Presentation							
c) Student Reaction							
d) Relation to Other Activities							

Comments:

Excellent Unacceptable

Laboratory Activities

	1	2	3	4	5	6	7
a) Content							
b) Quality of Presentation							
c) Student Reaction							
d) Relation to Other Activities							

Comments:

Excellent Unacceptable

Evaluation Forms

	1	2	3	4	5	6	7
a) Content							
b) Quality of Presentation							
c) Student Reaction							
d) Relation to Other Activities							

Comments:

APPENDIX 4

Summative Reports

Item A - Site Coordinator Comments

Item B - Participant Comments

ITEM A

SUMMATIVE REPORTS

FOR FALL CAREER ED COURSE

Site Coordinators

1) Were there any specific programs that were liked or not liked and why?

Liked

"Week 11, 15 and 14 were quite good. The students also liked the first week and particularly the use of film cuts to show real programs in operation."

"By their responses and attitudes, the participants seemed to relate best to 'non-theoretical' programs -- especially seminars 3, 11, 14 and 15."

"The one seminar that stands out as being the most well received by my class was the one on stereotyping. I think this was due in part to the film segments used as well as the interest of the topic. This was perhaps also the best example of correlation between the seminar and ancillary activities."

"Participants liked the programs that explained the LAP's and the learning resource center. Program 14, which dealt with teachers explaining the LAPs and which used some film clips of the teachers in the classroom, was well received."

"Generally speaking, the most popular programs were those that showed film segments of teachers demonstrating a concept in the classroom."

"The demonstrations of the LAP and the ISP were liked most by the class, though each seminar was liked by the class. The discussions afterwards were very interesting."

"Later programs tended to be better received than the earlier ones. One reason might be that area participants were involved/appeared on the seminars. The participants liked the programs that contained film clips and examples. These were better received than seminars which were primarily talk between panelists."

"Generally, all the programs which utilized action sequences filmed outside the studio were received well and, thus, held the students' attention longer. The programs on stereotyping and career clusters were two such examples. This technique provides 'on the site' examples which were invaluable aids in helping to explain and reinforce otherwise obscure points to teachers."

"Any program that varied from the very narrow delivery of 'seminar' was well received and appreciated by the students. They also responded very favorably to Joel Smith, Cobb County, and the manner of his delivery. Joel impressed the crowd as well versed and knowledgeable in a very practical way."

"The majority of the class liked the week on stereotypes. They also liked the program presenting films."

"The teachers enjoyed the programs which involved other participants in the course. They could relate better to these people than to the 'experts' on other programs. The last seminar was enjoyable for several reasons: 1) quality of panel; 2) good panel exchange; and 3) last seminar to watch."

Disliked

"As the course entered its 5th or 6th week there were complaints of boredom and suggestions that the course format was monotonous to the point of distraction. Our teachers were less receptive to the pure talk programs that had as a panel college personnel and outside experts. Teachers related best to other teachers."

"Programs which incorporate sheer discussion for an hour can become tedious, even for teachers."

"The repetitious format used so often was very detrimental to the delivery. The panelists often lacked the impact that the program was intended to deliver. The net effect was less than the potential offering. The students were bored..."

"November 15 was considered dull -- Several of the earlier programs were frustrating because questions were not specifically answered. The class felt that a radio would have been as effective -- they wished to actually see career education in action."

2) What suggestions for course improvement do you have? Please be as specific as possible.

"There is a great need, I feel, to modify the format from seminar to lecture using film clips, etc., as examples. The course participants need more real examples to help them."

"Certainly the segments that contained film sequences were superior and those that allowed teachers/counselors to react to relevant teaching situations were best."

"Make better use of the media; the seminar format was not as successful as we had hoped. My students observed that it was not really necessary to watch the television, one could get just as much out of the sessions by listening: use more film clips, use the television to show the best of career education materials on the market - games, movies, etc."

"Have more show and tell segments. Give concrete examples of career education programs/situations."

"Show more actual in-class activities on film to show career education in process."

"Film clips - animation - role play situations."

"More specific examples of career education in action; actual classroom filming or student/teacher interviews. Show materials and how to use them. Demonstrate use of AIM/ARM, microfiche, SRA materials, etc."

"Information systems should be presented more comprehensively. If the retrieval systems are an integral part of the content, they should be presented on the TV programs as well as ancillary activities."

"Greater emphasis should have been placed on the actual 'mechanics' of career education implementation."

"The studio situation appeared still and unrealistic. This was perhaps not an effective means of illustrating a point."

"Change to a 20-30-minute canned presentation explaining how to utilize a particular concept in the classroom; followed by a 15 or 20-minute question/answer period. One way of teaching career education should be selected and emphasized in programs geared toward implementing career education into the classroom."

"Include more high school topics in the programming. Many programs were repetitious of other programs -- review and delete the extreme amounts of repetition. Balance the panels with teachers and board experts as well as material. Many participants felt that some of the later programs should be placed earlier in the course. Build in pauses in the programming to allow classes to collect their thoughts and ask questions."

"Programs are more exciting when the panel consists of experts and local teachers interacting. No programming should occur on Final Exam Day."

"A format that blends the different types of information dealing via TV would benefit the program considerably. Reference to and discussion of reading materials, ancillary activities, etc. would allow for an integration of the total program. As it was, much of the class activity was passed over without even being related to the programming."

"Lab activities should be geared toward activities that teachers can utilize in the school-planning session on developing a curriculum guide or in the classroom with students. The LAP should be explained by the TV instructor."

"Ancillary materials should be rewritten. In their present form directions are not totally clear. Write for 3rd party comprehension. More discussion time appears to be needed after each seminar. Our teachers really enjoyed discussing the seminars."

"Less 'busywork' and more practical exercises that teachers can implement into their classroom studies are a must. Explicit definition of what is wanted in homework would be helpful. Not understanding what was to be included in homework was a main concern of teachers. A lighter homework load, especially during the first few weeks is important. Please I've lost too many teachers the first few class meetings because of the exorbitant amount of homework and density of lab packets."

"Early assignments should be given on a priority basis to prevent overwhelming students initially."

"The class felt the activities were overwhelming. They did not like the idea of choosing some and learning others. The class wanted to be able to complete all activities."

3) Would you recommend this course to your peers? Why or why not?
"I wouldn't recommend the course in the present format. There are some very fine parts of the course -- and these modules might

be used in 'mini' course fashion. Exceptional programs can be singled out and distributed to schools."

"I would be reluctant to recommend this course, as it was delivered, to my peers. I believe it would be beneficial to extract essential information from the 16 lessons and present this in a 'mini course' of 4 or 5 sessions."

"I could not recommend the course as it stands but with modifications mentioned, perhaps."

"Yes, if some revisions can be made in the basic approach. Since this is an experimental program, I presume that changes will be made. (I don't know quite how to react to this question because the course has a unique delivery system and will not be repeated in the exact form.) I feel the program has been a success, but feedback will alter the basic program."

"Yes, I would recommend this course to anyone."

"Yes, I would. It is basically a sound course that probably demands more of the participant than any regular graduate level course. The course is thorough and generally utilizes modern technology well in instruction. The grading structure does need to be reviewed."

"Yes, I already have recommended it to many. Career education will, I feel, become more important in the future and, hopefully, will be utilized in all school systems beginning in grade school. Since most parents do not take it upon themselves to expose their children to the tremendous variety of careers available to them, then educators must. So many children go through school with little conception of the purpose of education. Career education, I believe, can help remedy this problem in the future."

"Yes, on the basis of overall content."

"The course needs to be reworked but certainly not abolished. I would recommend this course based on the changes that I anticipate."

"Career education is very important and the basic objective of the course is to demonstrate that point. The students were able to grasp that point and develop it into something applicable to their private situations."

"The majority of students said they would recommend the course for summer. They felt there was too much work that was worthwhile to take the course during the school year."

"Yes. The course (CE) has real merit for teachers in all grades. I even think a CE course should be mandatory for a degree in education."

"If suggested changes were considered, I would recommend it. The course is basically excellent in theory and a necessity for teachers. We are all ignorant on the subject, and after the course, at least had a working knowledge of the area. All teachers should be exposed to career education methods and ideas for teaching it."

4) What specific comments do the students have concerning the course?

"Their behavior during the television seminars, their eventual reluctance to pose questions, and their casual attitude in general suggests that they were bored. One student indicated that it would have been more beneficial to spend an hour a week simply discussing, as a group, the questions on the posttest. Discussions were, incidentally, a high point in the 16 weeks."

"The ancillary activities were confusing and assignments difficult to understand. Avoid the use of so many categories like 'pre-program preparation, follow-up activities,' and so on. Couldn't all of these be considered assignments or homework?"

"Students had difficulty determining just what was expected of them, perhaps a system of color coding could be utilized. For example, one sheet in each packet should be a different color. On this sheet would be stated exactly what the assignment for that week was and when it was to be turned in."

"The students commented that they would like a more structured course, less philosophy and more concrete examples."

"Perhaps this type of course did not lend itself well to the two-way communication system. By this I mean that questions sent in applied to very small segments of the population. Students felt that at times their questions were not adequately answered."

"Seminar too long -- 30 to 40 minutes would be adequate. More shots of teacher demonstrating CE concepts in the classroom should be shown. The LAP should have been explained on the second or third broadcast. Programs should include more film clips of the concepts being put into action in the school setting. The first twenty minutes of the program could be a canned presentation and the last twenty minutes could be for seminar -- question and answer session. LAP activities should be geared toward activities that can be used in the classroom; the 'Life Ropes' activity is a good example."

"The course is fantastic. The materials are simply great! Whoever did the planning and organization did a marvelous job. What can we do to continue this course? This course is the best thing that I have taken in many years. Our peers want to know when the next course will be offered because they want to take it."

"The workload was too heavy in the first four programs. Too many activities were contained in the ancillary materials. The students do like the lab activities but would like more time for total group interaction and discussion. Our site contained worthy senior high teachers and, therefore, we would have liked to have seen more senior high oriented seminars. On the whole, students have responded most favorably."

"The majority said they enjoyed the class, except for the homework load."

"The main comment was that they had to put too much time into the course."

5) Include any other information which you feel would be useful in evaluating the overall effectiveness of the course. Please try to be as specific as possible.

"Actual career education programs that have been or soon will be implemented in this area clearly indicate that the course succeeded in achieving one of its obvious objectives -- improving or instigating good career ed programs that will eventually benefit students. I honestly believe the course was successful in this regard and certainly worthwhile."

"The textbooks and other materials could be used more throughout the course. Rather than distributing all of the materials at the beginning, do this as the need for them arises during the semester. Use the televised portion to discuss things such as the information systems, special assignments and so forth. Use more visuals; when it is anticipated ahead of time that an address will be requested by the site, print a card to show on the screen rather than repeating the name and address several times."

"Follow-up of participants to determine if they do incorporate career education into the school curriculum. This is the supreme test and in the long-run is the change in teachers that the program is designed for. If the teachers do not incorporate career education in their teaching methodology, then test gains on the subject knowledge of career education are insignificant and irrelevant."

"Holding labs on different days than seminars might help to increase student interest and interaction."

ITEM B

SUMMARY FOR FEEDBACK QUESTIONNAIRE (1)

Participant Comments

After Seminar #5 for the fall career education course, the Feedback Questionnaire was administered the students to record their attitudes over the first five seminars. Nine questions were asked the students ranging from attitudes on the seminar program, lab materials, and information systems materials. The responses were given on a five-point Likert scale with 1 = unacceptable to 5 = outstanding. Students also had an opportunity to write comments for any of the questions.

Of the 15 classroom sites, 13 responded to this questionnaire. The two sites not responding were Sites 51 - Huntsville and 52 - Guntersville. The following summarizes the information for the remaining sites.

QUESTION 1: Pre-seminar preparation compared to work usually assigned in other graduate classes prior to covering material in class.

Seventy-six (76) students responded to this question. The mean of the given responses was 3.066 with a standard deviation of .998. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
5	15	31	20	5	Number of responses

Student Comments:

> "The assignments are unclear."
>
> "Directions on the ancillary materials packets are very vague. If they are to be self-directive, more attention should be paid to clarity."

> "It's all too confusing, assignments are not understandable. Obviously, questions have not been pre-tested before being given out."

In general, the students felt the assignments were unclear and confusing.

QUESTION 2: Televised, interactive seminars compared to other graduate seminars and class discussions.

Seventy-seven (77) students responded to this question. The mean of the given responses was 3.455 with a standard deviation of .789. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
0	10	26	37	4	Number of responses

Student Comments:

> "This is the 15th televised seminar I have taken part in."
>
> "An outline of the lecture would be beneficial."
>
> "I've never had a televised class."

QUESTION 3: The film segments used during the interactive seminar as sources of stimulation for the seminar discussions.

Seventy-one (71) students responded to this question. The mean of the given responses was 3.437 with a standard deviation of .890. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
0	10	29	23	9	Number of responses

Student Comments:

> "Too much other lab work and not enough time for seminar discussion."
>
> "We are not really given an opportunity to discuss the film segments since we have to do the activities as soon as program goes off."

> "Film segments don't stimulate discussions very often because when the telecast goes off, we usually start doing something unrelated to the telecast."
>
> "No film segments shown Week 5."
>
> "None shown."

In general, the students stated that they have no real opportunity to discuss the programs.

QUESTION 4: The seminar host and guests as competent and informative discussants of the seminar topic.

Seventy-nine (79) students responded to this question. The mean of the given responses was 3.785 with a standard deviation of .795. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
0	4	23	38	14	Number of Responses

Student Comments:

> "The speakers on Week 5 were very outstanding."
>
> "The Week 5 guests were extremely interesting and well informed. Mrs. Preli and Mr. Laramore were able to very intelligently offer suggestions as answers to each question."
>
> "Mr. Laramore and Mrs. Preli were excellent in terms of practical experience and good innovative ideas."

In general, the students seemed to like the seminar guests, especially those on the Week 5 program.

QUESTION 5: Laboratory activities compared to laboratory activities associated with other graduate courses.

Seventy-eight (78) students responded to this question. The mean of the given responses was 3.308 with a standard deviation of 1.097. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
3	15	29	17	14	Number of responses

Student Comments:

> "There is too much work to be done in the time we have allotted. A lot of 'busy work' is included and no one seems to know how to interpret the assignments."
>
> "There is too much work that seems to be 'busy work.' The instructor does not get his information in time to fully interpret it and relay it to us; therefore, there is total confusion."
>
> "The lack of competent direction in lab activities in terms of persons trained in career education detracts from effectiveness of lab. Also, confusion over interpretation of lab activity assignments wastes a lot of time."

In general, the students stated that too much work is being given in the allotted time and that some assignments appear to be vague.

QUESTION 6: Follow-up activities and homework assignments compared to similar activities in other graduate courses.

Seventy-eight (78) students responded to this question. The mean of the given responses was 3.090 with a standard deviation of .856. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
3	12	42	17	4	Number of responses

Student Comments:

> "There is much more work than in other courses taken."
>
> "I've never had to do this much work in any graduate course and I still do not understand what I've done."
>
> "I've never had to do so much outside work. I don't clearly understand how to do any of the work. As full-time teachers and parents, this overload is unrealistic."

> "Assignments are not well-defined."
>
> "I think the whole course is trying to cover too much material at one time. The weekly topics and assignments should be more limited."
>
> "There is a great deal of work if we are to do it all."
>
> "I'm not clear as to what is to be done -- I do not feel comfortable because I feel ignorant of what is expected of me."

In general, the students felt that there was too much work to do.

QUESTION 7: On-site reference materials compared to materials placed on reserve by other graduate instructors.

Seventy-six (76) students responded to this question. The mean of the given responses was 3.855 with a standard deviation of .976. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
0	8	18	27	23	Number of responses

Student Comments:

> "Good, but we don't have time to take advantage of them."
>
> "We don't have time to take advantage of the materials."
>
> "We do not have time to take advantage of these materials."
>
> "No observations made."

In general, the students stated that they do not have sufficient time to take advantage of the materials.

QUESTION 8: Retrieval systems materials compared to materials instructors in other graduate courses locate to help specific individuals.

Seventy-six (76) students responded to this question. The mean of the given responses was 3.395 with a standard deviation of 1.072. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
5	9	23	29	10	Number of responses

Student Comments:

> "We don't have time to take advantage of this because of the extra work load."

> "We have not had an opportunity to work with retrieval systems."

> "We've had no chance to use the systems."

In general, the students do not have time to use the retrieval systems.

QUESTION 9: The site monitor as an effective course leader.

Seventy-eight (78) students responded to this question. The mean of the given responses was 3.910 with a standard deviation of .914. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
1	3	21	30	23	Number of responses

Student Comments:

> "I don't feel he gets enough instructions as to what we are to do since the directions are so vague."

> "This course does not do justice to the site monitor because he cannot interpret his instructions clearly; therefore, when he gives us our directions, they are not clear."

> "The lack of competent direction in lab activities in terms of persons trained in career education detracts from the effectiveness of lab. Also, confusion over interpretation of lab activity assignments wastes a lot of time."

> "She has had an extremely difficult time with equipment and has maintained her composure throughout. In the absence of televised programs, she has made an effort to make class time worthwhile."

> "Our site coordinator deserves a raise! Activities are too long for the time allotted. Instructions are confusing."

> "Our site monitor is very cooperative and understanding."

SUMMARY FOR FEEDBACK QUESTIONNAIRE (2)

After Seminar #10 for the fall career education course, the Feedback Questionnaire was administered the students to record their attitudes over Seminars #6 through #10. Nine questions were asked the students ranging from attitudes on the seminar program, lab materials and information systems materials. The responses were given on a five-point Likert scale with 1 = unacceptable to 5 = outstanding. Students also had an opportunity to write comments for any of the questions.

Of the 15 classroom sites, 12 responded to this questionnaire; the three sites not responding were: 33 - Boone, 42 - Keyser and 52 - Guntersville. The following summarizes the information for the remaining sites.

QUESTION 1: Pre-seminar preparation compared to work usually assigned in other graduate classes prior to covering material in class.

Fifty-four (54) students responded to this question. The mean of the given responses was 3.148 with a standard deviation of .833. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
2	7	28	15	2	Number of responses

Comments:

"LAPs should have been explained the first week."

"The preassigned work is well-organized and prepares the student for class activities."

"I feel the work load could be lessened somewhat."

"I don't think the course designers know where they are going. At least nothing new has been added in the past 4 weeks.

QUESTION 2: Televised, interactive seminars compared to other graduate seminars and class discussion.

Fifty-seven (57) students responded to this question. The mean of the given responses was 2.895 with a standard deviation of 1.145. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
8	13	16	17	3	Number of responses

Comments:

"The past two seminars have been more interesting."

"You can see the expression on classmates' faces when the people are answering questions that we have sent in."

"Any television seminar is of necessity sincerely limited because of the lack of interaction from the class as the program (class) progresses."

"It seems that a course which would be a combination of the televised programs of this summer and the seminars of fall would be more acceptable."

QUESTION 3: The film segments used during the interactive seminar as sources of stimulation for the seminar discussions.

Fifty-three (53) students responded to this question. The mean of the given responses was 3.283 with a standard deviation of .863. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
1	8	22	19	3	Number of responses

Comments:

"There were no filmed segments this time."

"Films add realism to the lecture by actual interviews and work activities."

"More films please - the cream of cream, please."

"There were not enough practical film segments."

"Need more pertinent films."

"Should be more of the same."

QUESTION 4: The seminar host and guests as competent and informative discussants of the seminar topic.

Fifty-five (55) students responded to this question. The mean of the given responses was 3.345 with a standard deviation of .947. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
1	10	18	21	5	Number of responses

Comments:

"They are personable and interesting."

"It is hard to judge all at once. Some are very good while others are poor."

"The last four weeks were unacceptable."

"The seminars need some break-up in the form of presentation."

QUESTION 5: Laboratory activities compared to laboratory activities associated with other graduate courses.

Fifty-six (56) students responded to this question. The mean of the given responses was 3.054 with a standard deviation of .961. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
2	15	20	16	3	Number of responses

Comments:

"Class interaction is extremely helpful."

"Too many activities are in some packets while others have none. Limit activities to one or two out of a range of optional ones."

"Not enough time is allowed to properly execute most of the activities."

"Just too much! They do not leave enough time to use the research materials on hand at this center."

QUESTION 6: Follow-up activities and homework assignments compared to similar activities in other graduate courses.

Fifty-six (56) students responded to this question. The mean of the given responses was 3.036 with a standard deviation of .873. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
0	18	20	16	2	Number of responses

Comments:

"I believe more out-of-class work is required in this course than in any other graduate course I have taken."

"Much more work than ordinarily received in such a course."

"I don't have time to do them so maybe that's my fault."

"Good, but here again in order to do a real good job would require more time than anyone but a full-time student could manage."

QUESTION 7: On-site reference materials compared to materials placed on reserve by other graduate instructors.

Fifty-six (56) students responded to this question. The mean of the given responses was 3.732 with a standard deviation of .963. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
0	6	17	19	14	Number of responses

Comments:

"Often the limited number of copies prevents each student's participation."

"Very good, but they were inconvenient for a commuter." We don't spend enough time in tne reference room."

"The reference materials were most beneficial as I worked on the project, and as I read materials to help me in the classroom."

"Excellent array of materials."

"We need more time to use the materials."

QUESTION 8: Retrieval systems materials compared to materials instructors in other graduate courses locate to help specific individuals.

Fifty-seven (57) students responded to this question. The mean of the given responses was 3.544 with a standard deviation of .983. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
1	7	19	20	10	Number of responses

Comments:

"Nothing can replace a well-stocked library."

"AIM, ARM, CBRU, etc., are entirely new to me and are worthwhile."

"There is not enough time to use them and no introduction is provided."

QUESTION 9: The site monitor as an effective course leader.

Fifty-seven (57) students responded to this question. The mean of the given responses was 4.105 with a standard deviation of .772. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
1	0	8	31	17	Number of responses

Comments:

"The non-academic image is excellent when compared with the average education professor."

"She does extremely well, considering what she has been given to deal with."

"I honestly feel that I have given a lot of knowledge, but I feel so unorganized. I'm buried under a mountain of information."

"I like her."

"Her position is really tough. She knows what she is doing, but she doesn't know what Kentucky is doing in some areas."

"If she has a fault it is her total dedication to some activities that might better be sidelined."

SUMMARY FOR FEEDBACK QUESTIONNAIRE (3)

After Seminar #15 for the fall career education course, the Feedback Questionnaire was administered the students to record their attitudes over seminars #11 through #15. Nine questions were asked the students ranging from attitudes on the seminar program, lab materials and information systems materials. The responses were given on a five-point Likert scale with 1 = unacceptable to 5 = outstanding. Students also had an opportunity to write comments for any of the questions.

Of the 15 classroom sites, 12 responded to this questionnaire. The three sites not responding were: 22 - Coalfield, 33 - Boone and 42 - Keyser. The following summarizes the information for the remaining sites.

QUESTION 1: Pre-seminar preparation compared to work usually assigned in other graduate classes prior to covering material in class.

Sixty (60) students responded to this question. The mean of the given responses was 3.183 with a standard deviation of .833. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
1	11	26	20	2	Number of responses

Comments:

> "Amount of material presented to us in Lessons 2 and 3 was so overwhelming that many of us 'gave up' on keeping up on the reading. Finally by Week 6 or 7, I finally realized that the required readings plus suggested readings were again possible to complete."

> "The work has diminished tremendously lately and has not been too demanding."

"Too much material was required at the beginning of the course."

"There is too much busy work. Time would have been better spent working on the LAP and doing reading on the wide variety of material."

QUESTION 2: Televised, interactive seminars compared to other graduate seminars and class discussions.

Sixty-one (61) students responded to this question. The mean of the given responses was 3.475 with a standard deviation of .924. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
2	6	20	27	6	Number of responses

QUESTION 3: The film segments used during the interactive seminar as sources of stimulation for the seminar discussions.

Sixty-two (62) students responded to this question. The mean of the given responses was 3.742 with a standard deviation of .957. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
2	5	11	33	11	Number of responses

QUESTION 4: The seminar host and guests as competent and informative discussants of the seminar topic.

Sixty-three (63) students responded to this question. The mean of the given responses was 4.095 with a standard deviation of .777. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
0	1	13	28	21	Number of responses

QUESTION 5: Laboratory activities compared to laboratory activities associated with other graduate courses.

Sixty (60) students responded to this question. The mean of the given responses was 3.250 with a standard deviation of .895. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert scale
2	8	27	19	4	Number of responses

Comments:

"This answer may reflect my personal bias of presently being turned off with class 'fun and games.' "

"Some of the lab activities and follow-ups were really unnecessary."

"Most graduate courses I've taken have generally made course assignments at the beginning of the course. All the extra activities were hard to complete and distracted me from the main assignment completing my LAP. I teach 145 students and am a mother and a wife."

QUESTION 6: Follow-up activities and homework assignments compared to similar activities in other graduate courses.

Sixty-one (61) students responded to this question. The mean of the given responses was 3.246 with a standard deviation of .977. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
6	3	24	26	2	Number of responses

Comments:

"Amount of material presented to us in Lessons 2 and 3 was so overwhelming that many of us 'gave up' on keeping up on the reading. Finally, by Week 6 or 7 I finally realized that the required reading plus suggested readings were again possible to complete."

"Too much - directions excessive and confusing."

QUESTION 7: On-site reference materials compared to materials placed on reserve by other graduate instructors.

Sixty-one (61) students responded to this question. The mean of the given responses was 4.197 with a standard deviation of .792. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
0	1	11	24	25	Number of responses

Comments:

"Very helpful materials."

QUESTION 8: Retrieval systems materials compared to materials instructors in other graduate courses locate to help specific individuals.

Sixty-one (61) students responded to this question. The mean of the given responses was 3.623 with a standard deviation of 1.128. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
3	6	18	18	16	Number of responses

QUESTION 9: The site monitor as an effective course leader.

Sixty (60) students responded to this question. The mean of the given responses was 4.300 with a standard deviation of .830. The frequency of selected responses on the Likert scale are as follows:

1	2	3	4	5	Likert Scale
0	2	8	20	30	Number of responses

Comments:

"This is difficult to evaluate. The frustration level of many of the group members made the site monitor's position very difficult, I am sure. However, I feel she made very good efforts to meet the course objectives and to develop a structure for the course."

"She has been very helpful, nice and cooperative."

"She was an excellent monitor and led us instead of driving us. We looked forward to each class."

"The site coordinator did not organize our time for laboratory activities."

APPENDIX 5

Teaching Practices Inventory Responses

RESPONSE FREQUENCIES AND PERCENTAGES FOR THE TEACHING PRACTICES INVENTORY
CES COURSE, FALL, 1974
(N_p = 247 Pre-Course, N_f = 221 Post-Course)

Item	Pre-Course	Post-Course
1. Was there a career education program in your school?		
a) Yes	101 (41%)	66 (30%)
b) No	146 (59%)	155 (70%)
c) NR*	0 (0%)	0 (0%)
2. Was your class involved in the program?		
a) Yes	74 (30%)	58 (26%)
b) No	163 (66%)	157 (71%)
c) NR	10 (4%)	6 (3%)
3. Was time taken in your class for career education activities?		
a) Yes	117 (47%)	138 (62%)
b) No	115 (47%)	73 (33%)
c) NR	15 (6%)	10 (5%)
4. Were career education activities incorporated into your curriculum?		
a) Yes	123 (50%)	100 (45%)
b) No	95 (38%)	107 (49%)
c) NR	29 (12%)	14 (6%)
Who in your school developed the career education program?		
5. Guideline counselor?		
a) Yes	130 (53%)	105 (47%)
b) No	87 (35%)	94 (43%)
c) NR	30 (12%)	22 (10%)
6. Teachers?		
a) Yes	127 (51%)	116 (53%)
b) No	91 (37%)	80 (36%)
c) NR	29 (12%)	25 (11%)

*No response

Item	Pre-Course	Post-Course
7. Principal?		
a) Yes	63 (26%)	56 (25%)
b) No	149 (60%)	138 (63%)
c) NR	35 (14%)	27 (12%)
8. Did the principal discuss career education program development with you?		
a) Yes	65 (26%)	64 (29%)
b) No	174 (71%)	154 (70%)
c) NR	8 (3%)	3 (1%)
9. Did you find that the concept that individuals differ in their interest, abilities, and values was important to career education?		
a) Yes	202 (82%)	202 (91%)
b) No	26 (10%)	15 (7%)
c) NR	19 (8%)	4 (2%)
10. Were hobbies a good source of career education information?		
a) Yes	184 (75%)	190 (86%)
b) No	35 (14%)	26 (12%)
c) NR	28 (11%)	5 (2%)
11. Were you comfortable doing career education projects?		
a) Yes	146 (59%)	167 (76%)
b) No	48 (19%)	34 (15%)
c) NR	53 (22%)	20 (9%)
12. The best source of career education materials is:		
a) Books and pamphlets	36 (15%)	53 (24%)
b) Career education kits	70 (28%)	50 (22%)
c) Films and filmstrips	48 (19%)	47 (21%)
d) Records and tapes	5 (2%)	6 (3%)
e) Other sources	59 (24%)	59 (27%)
f) NR	29 (12%)	6 (3%)

Item	Pre-Course	Post-Course
Which of the following techniques did you use?		
13. Explain to students that each person sees a job differently:		
a) Yes	161 (65%)	161 (73%)
b) No	60 (24%)	48 (22%)
c) NR	26 (11%)	12 (5%)
14. Have students pick an occupation, tell what it is and then compare answers:		
a) Yes	90 (36%)	113 (51%)
b) No	121 (49%)	92 (42%)
c) NR	36 (15%)	16 (7%)
15. Use persons employed in the community as speakers:		
a) Yes	148 (60%)	150 (68%)
b) No	74 (30%)	59 (27%)
c) NR	25 (10%)	12 (5%)
16. Introduce students to various types of jobs:		
a) Yes	180 (73%)	181 (82%)
b) No	46 (19%)	30 (14%)
c) NR	21 (8%)	10 (4%)
17. Ask students what they want to do when they grow up:		
a) Yes	193 (78%)	184 (83%)
b) No	35 (14%)	32 (15%)
c) NR	19 (8%)	5 (2%)
18. Ask students what their fathers do for a living:		
a) Yes	175 (71%)	173 (78%)
b) No	53 (21%)	43 (20%)
c) NR	19 (8%)	5 (2%)

Item	Pre-Course	Post-Course
19. Help students to see themselves as worthwhile individuals:		
a) Yes	222 (90%)	200 (90%)
b) No	10 (4%)	17 (8%)
c) NR	15 (6%)	4 (2%)
20. Role playing of various jobs:		
a) Yes	96 (39%)	106 (48%)
b) No	128 (52%)	106 (48%)
c) NR	23 (9%)	9 (4%)
21. Outside speakers explaining their jobs:		
a) Yes	141 (57%)	154 (70%)
b) No	82 (33%)	60 (27%)
c) NR	24 (10%)	7 (3%)
22. Have children's parent serve as information sources about careers:		
a) Yes	95 (39%)	98 (44%)
b) No	127 (51%)	116 (53%)
c) NR	25 (10%)	7 (3%)
23. Have students make a chart of your community needs and the occupations that fulfill those needs:		
a) Yes	38 (15%)	41 (19%)
b) No	182 (74%)	167 (75%)
c) NR	27 (11%)	13 (6%)
24. Have students write essays on what life would be like without certain jobs:		
a) Yes	43 (17%)	62 (28%)
b) No	179 (73%)	150 (68%)
c) NR	25 (10%)	9 (4%)
25. Have students make a list of all the jobs they can think of:		
a) Yes	84 (34%)	100 (45%)
b) No	139 (56%)	111 (50%)
c) NR	24 (10%)	10 (5%)

Item	Pre-Course	Post-Course
26. Explain educational requirements of jobs:		
a) Yes	193 (78%)	191 (87%)
b) No	33 (13%)	23 (10%)
c) NR	21 (9%)	7 (3%)
27. Have students explore the skills required for jobs they are interested in:		
a) Yes	171 (69%)	163 (74%)
b) No	52 (21%)	50 (22%)
c) NR	24 (10%)	8 (4%)
28. Explain what jobs use the educational skills you are teaching:		
a) Yes	176 (71%)	172 (78%)
b) No	45 (18%)	36 (16%)
c) NR	26 (11%)	13 (6%)
29. Have students use educational skills in simulated jobs:		
a) Yes	78 (32%)	92 (37%)
b) No	142 (57%)	115 (47%)
c) NR	27 (11%)	14 (6%)
30. Techniques other than those above:		
a) Yes	125 (51%)	141 (64%)
b) No	85 (34%)	63 (28%)
c) NR	37 (15%)	17 (8%)
In order to gain information about career education which of the following did you use?		
31. Regional career education center:		
a) Yes	49 (20%)	87 (39%)
b) No	163 (66%)	122 (55%)
c) NR	35 (14%)	12 (6%)
32. School system career education center:		
a) Yes	73 (30%)	77 (35%)
b) No	143 (58%)	129 (58%)
c) NR	31 (12%)	15 (7%)

Item	Pre-Course	Post-Course
33. School career education center:		
a) Yes	84 (34%)	91 (41%)
b) No	129 (52%)	111 (50%)
c) NR	34 (14%)	19 (9%)
34. Guidance counselor:		
a) Yes	153 (62%)	146 (66%)
b) No	68 (28%)	62 (28%)
c) NR	26 (10%)	13 (6%)
35. School principal:		
a) Yes	60 (24%)	72 (33%)
b) No	154 (62%)	131 (59%)
c) NR	33 (14%)	18 (8%)
36. Local industries:		
a) Yes	140 (57%)	160 (72%)
b) No	76 (31%)	49 (22%)
c) NR	31 (12%)	12 (6%)
37. Local library:		
a) Yes	142 (57%)	150 (68%)
b) No	74 (30%)	57 (26%)
c) NR	31 (13%)	14 (6%)
38. Professional books and journals:		
a) Yes	171 (69%)	173 (78%)
b) No	49 (20%)	39 (18%)
c) NR	27 (11%)	9 (4%)
39. College library:		
a) Yes	61 (25%)	68 (31%)
b) No	152 (61%)	139 (63%)
c) NR	34 (14%)	14 (6%)
40. College professors:		
a) Yes	63 (26%)	76 (34%)
b) No	144 (58%)	132 (60%)
c) NR	40 (16%)	13 (6 %)

Item	Pre-Course	Post-Course
41. Information retrieval systems:		
a) Yes	39 (16%)	93 (42%)
b) No	169 (68%)	112 (51%)
c) NR	39 (16%)	16 (7%)
42. Other sources of information:		
a) Yes	128 (52%)	142 (64%)
b) No	86 (35%)	65 (30%)
c) NR	33 (13%)	14 (6%)
43. Did you use movies and filmstrips concerning career education?		
a) Yes	133 (54%)	149 (67%)
b) No	95 (38%)	64 (29%)
c) NR	19 (84%)	8 (4%)
44. Do you know where to obtain movies and filmstrips concerning career education?		
a) Yes	169 (69%)	192 (87%)
b) No	60 (24%)	23 (10%)
c) NR	18 (7%)	6 (3%)
45. It appeared the students' parents wanted career education taught:		
a) Yes	120 (49%)	127 (58%)
b) No	89 (36%)	69 (31%)
c) NR	38 (15%)	25 (11%)
46. Did your school system have in-service training sessions for career education techniques?		
a) Yes	58 (24%)	47 (21%)
b) No	171 (69%)	165 (75%)
c) NR	18 (7%)	9 (4%)
47. Did you find standardized tests useful to your teaching procedures?		
a) Yes	84 (34%)	80 (36%)
b) No	132 (53%)	123 (56%)
c) NR	31 (13%)	18 (8%)

Item	Pre-Course	Post-Course
Have you taught in?		
48. Team teaching situations:		
a) Yes	104 (42%)	95 (43%)
b) No	131 (53%)	115 (52%)
c) NR	12 (5%)	11 (5%)
49. Open classrooms:		
a) Yes	56 (23%)	53 (24%)
b) No	174 (70%)	154 (70%)
c) NR	17 (7%)	14 (6%)
50. Traditional classrooms:		
a) Yes	231 (94%)	200 (91%)
b) No	6 (2%)	14 (6%)
c) NR	10 (4%)	7 (3%)
51. Resource center:		
a) Yes	49 (20%)	80 (36%)
b) No	180 (73%)	131 (59%)
c) NR	18 (7%)	10 (5%)
52. Individual instruction situations:		
a) Yes	201 (81%)	180 (81%)
b) No	34 (14%)	33 (15%)
c) NR	12 (5%)	8 (4%)
53. Homogeneous classrooms		
a) Yes	172 (70%)	149 (67%)
b) No	59 (24%)	61 (28%)
c) NR	16 (6%)	11 (5%)
54. Other teaching situations:		
a) Yes	98 (40%)	101 (46%)
b) No	119 (48%)	99 (45%)
c) NR	30 (12%)	21 (9%)

Item	Pre-Course	Post-Course
55. During the classroom work periods the noise level in your room was:		
a) completely quiet	6 (2%)	6 (3%)
b) whisper noise	95 (38%)	66 (30%)
c) great amount of noise due to enthusiasm	118 (48%)	130 (58%)
d) fairly high because students no interested	9 (4%)	10 (5%)
e) NR	19 (8%)	9 (4%)
56. Were parents involved in school programs?		
a) Yes	57 (23%)	72 (33%)
b) No	177 (72%)	144 (65%)
c) NR	13 (5%)	5 (2%)
57. Students in your school:		
a) were interested and enthusiastic	59 (24%)	51 (23%)
b) were mildly interested	139 (56%)	118 (53%)
c) did not appear interested, but did their work	31 (13%)	28 (13%)
d) seemed to be passing time of day	10 (4%)	24 (11%)
e) disliked school	2 (1%)	0 (0%)
f) NR	6 (2%)	0 (0%)
58. Did you define your expectations and write them down in the form of objectives?		
a) Yes	136 (55%)	139 (63%)
b) No	95 (39%)	71 (32%)
c) NR	16 (6%)	11 (5%)
The teaching strategies you used most were:		
59. Teaching small groups:		
a) Yes	183 (74%)	155 (70%)
b) No	49 (20%)	51 (23%)
c) NR	15 (6%)	15 (7%)
60. Teaching large groups:		
a) Yes	152 (62%)	144 (65%)
b) No	77 (31%)	61 (28%)
c) NR	18 (7%)	16 (7%)

Item	Pre-Course	Post-Course
61. Teaching an individual:		
a) Yes	182 (74%)	150 (68%)
b) No	45 (18%)	57 (26%)
c) NR	20 (8%)	14 (6%)
62. Using a lesson plan developed by someone else:		
a) Yes	43 (17%)	56 (25%)
b) No	181 (73%)	147 (67%)
c) NR	23 (9%)	18 (8%)
63. Developing your own lesson plan:		
a) Yes	218 (88%)	200 (91%)
b) No	15 (6%)	9 (4%)
c) NR	14 (6%)	12 (5%)
64. Did you encourage students to help each other?		
a) Yes	211 (85%)	205 (93%)
b) No	22 (9%)	10 (4%)
c) NR	14 (6%)	6 (3%)
65. Did you have students tutor other students?		
a) Yes	172 (70%)	175 (79%)
b) No	41 (16%)	37 (17%)
c) NR	34 (14%)	9 (4%)
66. Which technique did you use with small groups?		
a) lecturing	9 (4%)	7 (3%)
b) serving as a resource person	85 (34%)	85 (38%)
c) do both equally	110 (45%)	102 (46%)
d) other technique	26 (10%)	19 (9%)
e) NR	17 (7%)	8 (4%)

Item	Pre-Course	Post-Course
67. What were majority of lessons based on?		
a) state prepared lesson plan	13 (5%)	9 (4%)
b) system-wide lesson plan	12 (5%)	10 (5%)
c) commercially developed lesson plan	6 (2%)	5 (2%)
d) school-wide lesson plan	8 (3%)	3 (1%)
e) teacher developed lesson plan	189 (77%)	188 (85%)
f) NR	19 (8%)	6 (3%)
68. Did you have budget for classroom supplies and materials?		
a) Yes	151 (61%)	121 (55%)
b) No	83 (34%)	90 (40%)
c) NR	13 (5%)	10 (5%)
69. Did you order supplies and materials for your class?		
a) Yes	196 (79%)	169 (76%)
b) No	38 (15%)	43 (19%)
c) NR	13 (5%)	9 (4%)
70. Does your school have satisfactory supplies, equipment and materials?		
a) Yes	106 (43%)	95 (43%)
b) No	133 (54%)	120 (54%)
c) NR	8 (3%)	6 (3%)
Did your class include:		
71. a television:		
a) Yes	88 (36%)	79 (36%)
b) No	145 (59%)	113 (51%)
c) NR	14 (6%)	29 (13%)
72. a tape recorder:		
a) Yes	153 (62%)	149 (67%)
b) No	81 (33%)	63 (29%)
c) NR	13 (5%)	9 (4%)

Items	Pre-Course	Post-Course
73. a phonograph:		
a) Yes	172 (70%)	152 (69%)
b) No	62 (25%)	61 (28%)
c) NR	13 (5%)	8 (4%)
74. an overhead projector:		
a) Yes	186 (75%)	173 (78%)
b) No	48 (19%)	41 (19%)
c) NR	13 (5%)	7 (3%)
In which areas does your school need additional staff members?		
75. administrative:		
a) Yes	75 (30%)	61 (28%)
b) No	152 (62%)	144 (65%)
c) NR	20 (8%)	16 (7%)
76. supervisory:		
a) Yes	82 (33%)	65 (29%)
b) No	145 (59%)	143 (65%)
c) NR	20 (8%)	13 (6%)
77. counseling and guidance:		
a) Yes	163 (66%)	165 (75%)
b) No	71 (29%)	51 (23%)
c) NR	13 (5%)	5 (2%)
78. classroom teachers:		
a) Yes	158 (64%)	150 (72%)
b) No	74 (30%)	33 (24%)
c) NR	15 (6%)	8 (4%)
79. teacher aides:		
a) Yes	193 (78%)	190 (86%)
b) No	39 (16%)	25 (11%)
c) NR	15 (6%)	6 (3%)

Item	Pre-Course	Post-Course
80. medical:		
a) Yes	121 (49%)	118 (53%)
b) No	106 (43%)	93 (42%)
c) NR	20 (8%)	10 (5%)
81. How many books are in your school library?		
a) less than 1000	27 (11%)	28 (12%)
b) 1001-2000	45 (18%)	29 (13%)
c) 2001-3000	44 (18%)	35 (16%)
d) 3001-5000	43 (17%)	58 (26%)
e) over 5000	64 (26%)	69 (31%)
f) NR	24 (10%)	2 (1%)
82. Did the guidance counselor supply you with materials which strengthened your program?		
a) Yes	112 (45%)	131 (59%)
b) No	116 (47%)	83 (38%)
c) NR	19 (8%)	7 (3%)
83. Did the state department of instruction supply you with useful materials?		
a) Yes	114 (46%)	133 (60%)
b) No	108 (44%)	79 (36%)
c) NR	25 (10%)	9 (4%)
84. Are you familiar with the ERIC mcrofiche system?		
a) Yes	90 (36%)	177 (80%)
b) No	150 (61%)	41 (19%)
c) NR	7 (3%)	3 (1%)
85. Do you know the location of an ERIC reader?		
a) Yes	68 (28%)	155 (70%)
b) No	168 (68%)	66 (30%)
c) NR	11 (4%)	0 (0%)
86. Do you have input into curriculum?		
a) Yes	180 (73%)	183 (83%)
b) No	51 (21%)	27 (12%)
c) NR	16 (6%)	11 (5%)

Item	Pre-Course	Post-Course
87. Are you encouraged to experiment with different instructional techniques?		
a) Yes	170 (69%)	137 (62%)
b) No	67 (27%)	70 (32%)
c) NR	10 (4%)	14 (6%)
88. Do students have input into curriculum development?		
a) Yes	173 (70%)	145 (66%)
b) No	60 (24%)	64 (29%)
c) NR	14 (6%)	12 (5%)
89. Did you take part in curriculum development committees?		
a) Yes	126 (51%)	115 (52%)
b) No	108 (44%)	95 (43%)
c) NR	13 (5%)	11 (5%)
When faced with an instructional problem I sought the help of:		
90. a guidance counselor:		
a) Yes	128 (52%)	125 (57%)
b) No	94 (38%)	77 (35%)
c) NR	25 (10%)	19 (8%)
91. a fellow teacher:		
a) Yes	193 (78%)	183 (83%)
b) No	34 (14%)	26 (12%)
c) NR	20 (8%)	12 (5%)
92. the principal:		
a) Yes	139 (56%)	136 (62%)
b) No	85 (34%)	69 (31%)
c) NR	23 (9%)	16 (7%)
93. the area supervisor:		
a) Yes	99 (40%)	88 (40%)
b) No	121 (49%)	117 (53%)
c) NR	27 (11%)	16 (7%)

Item	Pre-Course	Post-Course
94. solved the problem myself:		
a) Yes	181 (73%)	185 (84%)
b) No	45 (18%)	28 (12%)
c) NR	21 (9%)	8 (4%)
95. Is curriculum revision needed in your school system?		
a) Yes	205 (83%)	194 (88%)
b) No	31 (13%)	22 (10%)
c) NR	11 (4%)	5 (2%)
96. Did you see a need for curriculum revision in your school system but were not able to help in its revision?		
a) Yes	85 (34%)	88 (40%)
b) No	145 (59%)	124 (56%)
c) NR	17 (7%)	9 (4%)
97. Did you see need for revision and were able to help?		
a) Yes	113 (46%)	110 (50%)
b) No	115 (47%)	97 (44%)
c) NR	19 (8%)	14 (6%)
98. Is there enough time in the day for lesson preparation?		
a) Yes	96 (39%)	73 (33%)
b) No	136 (55%)	135 (61%)
c) NR	15 (6%)	13 (6%)
How did you share teaching indeas with fellow teachers?		
99. informal discussions:		
a) Yes	225 (91%)	213 (96%)
b) No	13 (5%)	6 (3%)
c) NR	9 (4%)	2 (1%)

Item	Pre-Course	Post-Course
100. Leader of inservice teacher training program:		
a) Yes	56 (23%)	52 (24%)
b) No	169 (68%)	155 (70%)
c) NR	22 (9%)	14 (6%)
101. Participated in inservice teacher training program:		
a) Yes	131 (53%)	117 (53%)
b) No	99 (40%)	90 (41%)
c) NR	17 (7%)	14 (6%)
102. Coordinated a curriculum development project:		
a) Yes	27 (11%)	29 (13%)
b) No	195 (79%)	176 (80%)
c) NR	25 (10%)	16 (7%)
103. Participated in a curriculum development project:		
a) Yes	102 (41%)	89 (40%)
b) No	126 (51%)	121 (55%)
c) NR	19 (8%)	11 (5%)
104. Other activities not listed:		
a) Yes	93 (38%)	95 (43%)
b) No	126 (51%)	108 (49%)
c) NR	28 (11%)	18 (8%)
If you selected one of the activities in items 99-104, select the area(s) toward which those activities were aimed:		
105. Career Education:		
a) Yes	112 (45%)	130 (59%)
b) No	99 (40%)	72 (32%)
c) NR	36 (15%)	19 (9%)
106. Reading:		
a) Yes	98 (40%)	86 (39%)
b) No	110 (45%)	107 (48%)
c) NR	39 (15%)	28 (13%)

Item	Pre-Course	Post-Course
107. Mathematics:		
a) Yes	80 (32%)	75 (34%)
b) No	125 (51%)	117 (53%)
c) NR	42 (17%)	29 (13%)
108. Language skills:		
a) Yes	82 (33%)	81 (37%)
b) No	125 (51%)	113 (51%)
c) NR	40 (16%)	27 (12%)
109. Social Studies:		
a) Yes	73 (30%)	63 (29%)
b) No	132 (53%)	129 (58%)
c) NR	92 (17%)	29 (13%)
110. Natural Sciences:		
a) Yes	57 (23%)	61 (27%)
b) No	175 (71%)	130 (59%)
c) NR	15 (6%)	30 (14%)
111. Industrial arts / home economics:		
a) Yes	71 (29%)	63 (29%)
b) No	140 (57%)	130 (59%)
c) NR	36 (15%)	28 (12%)
112. Other areas:		
a) Yes	112 (45%)	104 (47%)
b) No	101 (41%)	96 (43%)
c) NR	34 (14%)	21 (10%)
Factors inhibiting you from carrying out curriculum revision were:		
113. Lack of self confidence:		
a) Yes	45 (18%)	42 (19%)
b) No	166 (67%)	153 (69%)
c) NR	36 (15%)	26 (12%)

Item	Pre-Course	Post-Course
114. Lack of knowledge and skills:		
a) Yes	97 (39%)	63 (28%)
b) No	119 (48%)	132 (60%)
c) NR	31 (13%)	26 (12%)
115. Lack of administrative support:		
a) Yes	87 (35%)	72 (33%)
b) No	123 (50%)	122 (55%)
c) NR	37 (15%)	27 (12%)
116. Lack of money:		
a) Yes	164 (66%)	141 (64%)
b) No	54 (22%)	61 (27%)
c) NR	29 (12%)	19 (9%)
117. Lack of resources:		
a) Yes	137 (56%)	111 (50%)
b) No	77 (31%)	91 (41%)
c) NR	33 (13%)	19 (9%)
118. Lack of fellow teacher support:		
a) Yes	64 (26%)	61 (28%)
b) No	145 (59%)	135 (61%)
c) NR	38 (15%)	25 (11%)
119. Lack of time:		
a) Yes	167 (68%)	167 (76%)
b) No	54 (22%)	42 (19%)
c) NR	26 (11%)	12 (5%)
120. Other factors:		
a) Yes	108 (44%)	107 (48%)
b) No	98 (40%)	88 (40%)
c) NR	41 (16%)	26 (12%)

Item	Pre-Course	Post-Course
Factors encouraging you to carry out curriculum revision were:		
121. Confidence in self:		
a) Yes	152 (62%)	150 (68%)
b) No	52 (21%)	45 (20%)
c) NR	43 (17%)	26 (12%)
122. Sufficient knowledge and skills:		
a) Yes	140 (57%)	140 (63%)
b) No	66 (27%)	48 (22%)
c) NR	41 (16%)	23 (15%)
123. Adequate administrative support:		
a) Yes	114 (46%)	108 (49%)
b) No	87 (35%)	81 (37%)
c) NR	46 (19%)	32 (14%)
124. Adequate money:		
a) Yes	50 (20%)	55 (25%)
b) No	145 (59%)	131 (59%)
c) NR	52 (21%)	35 (16%)
125. Adequate resources:		
a) Yes	82 (33%)	84 (38%)
b) No	113 (46%)	103 (47%)
c) NR	52 (21%)	34 (15%)
126. Adequate fellow teacher support:		
a) Yes	118 (48%)	110 (50%)
b) No	77 (31%)	78 (35%)
c) NR	52 (21%)	33 (15%)
127. Sufficient time:		
a) Yes	62 (25%)	67 (30%)
b) No	134 (55%)	119 (54%)
c) NR	49 (20%)	35 (16%)

Item	Pre-Course	Post-Course
128. Other factor:		
a) Yes	87 (35%)	103 (47%)
b) No	99 (40%)	83 (38%)
c) NR	61 (25%)	35 (16%)
129. Was your school departmentalized?		
a) Yes	184 (74%)	179 (81%)
b) No	37 (15%)	35 (16%)
c) NR	26 (11%)	7 (3%)
Did you plan career education activities on:		
130. an individual basis?		
a) Yes	139 (56%)	146 (66%)
b) No	72 (29%)	56 (25%)
c) NR	36 (15%)	19 (9%)
131. an intra departmental level?		
a) Yes	54 (22%)	56 (25%)
b) No	149 (60%)	138 (63%)
c) NR	44 (18%)	27 (12%)
132. a school-wide level?		
a) Yes	60 (24%)	49 (22%)
b) No	144 (58%)	143 (65%)
c) NR	43 (17%)	29 (13%)
133. Was there inter department cooperation in curriculum development?		
a) Yes	152 (62%)	125 (57%)
b) No	58 (23%)	69 (31%)
c) NR	37 (15%)	27 (21%)
134. Did your department corrdinator encourage curriculum development?		
a) Yes	120 (49%)	120 (54%)
b) No	78 (32%)	70 (32%)
c) NR	49 (19%)	31 (14%)

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